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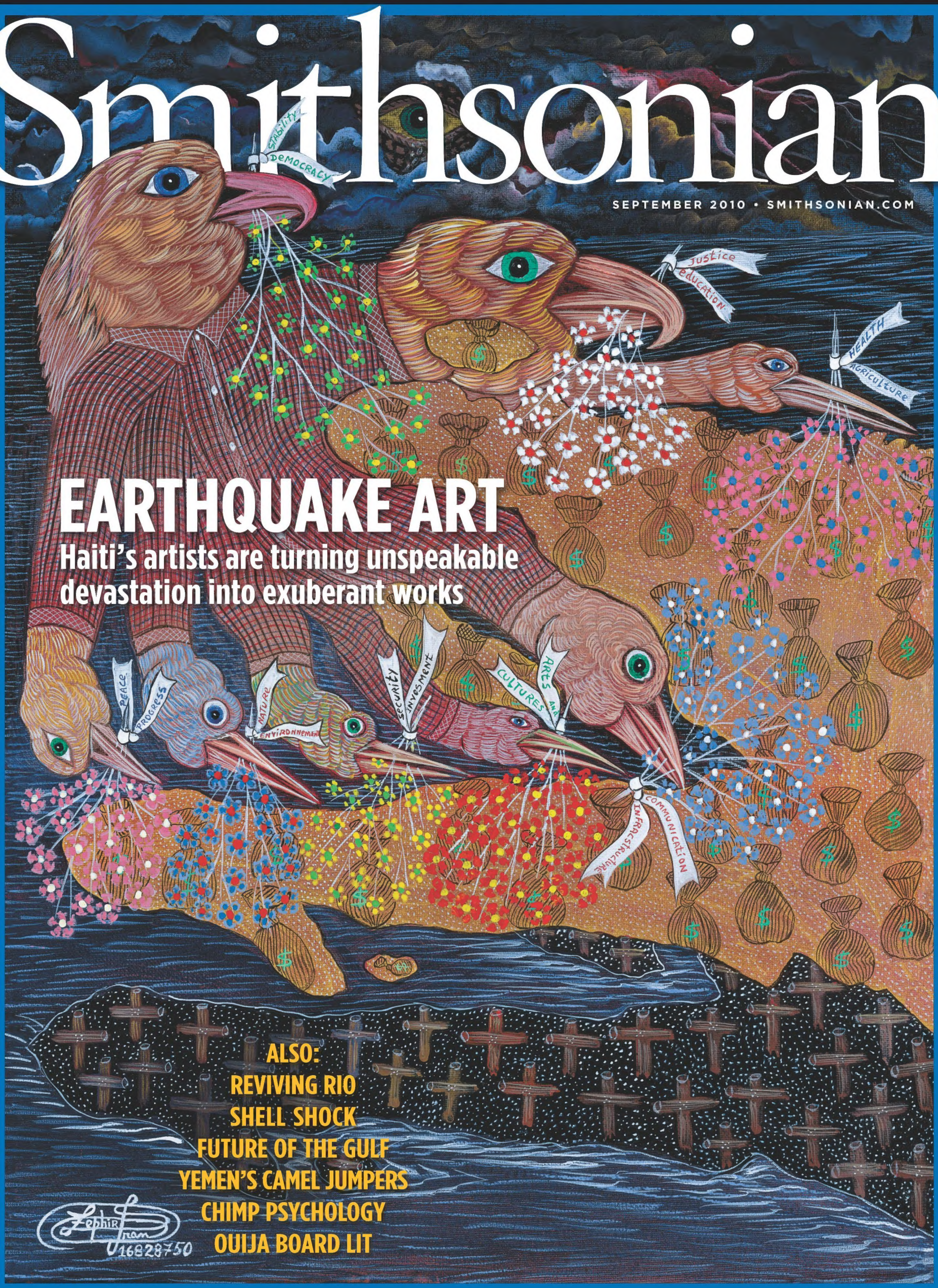

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SO WHERE YOU FROM?

ON THE COVER In Frantz Zéphirin's painting about the response to Haiti's earthquake, philanthropic birds (former President Clinton, President Obama and international aid agencies) deliver messages of hope to the Caribbean nation. Bags of cash, Zéphirin says, "show that to build a new Haiti with more justice and more educational opportunities we will need a lot of money." The painting will be auctioned, with proceeds going to the artist/gallery and the Smithsonian Institution-Haiti Cultural Recovery Project. Details at Smithsonian.com/haitiauction

THIS PAGE As oil cleanup proceeds near Grand Isle, Louisiana, a tern dives for fish near a containment boom.
PHOTOGRAPH BY MATT SLABY / LUCEO

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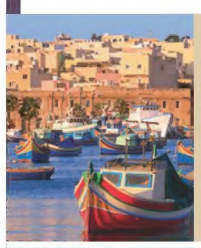

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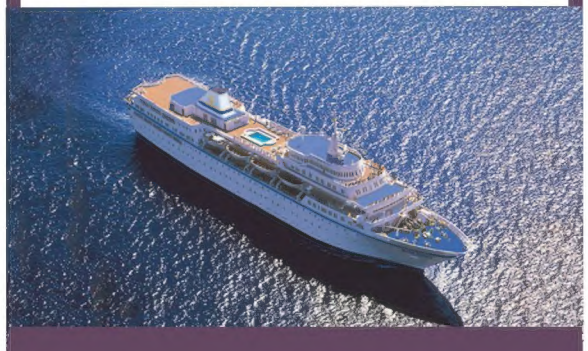

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FROM THE EDITOR

Aftershocks

Cataclysms and their consequences

BY CAREY WINFREY

"I care about them," says Brubaker (at left, in Haiti, with Préfète Duffaut).

FOR BILL BRUBAKER, a former *Washington Post* staff writer, reporting on the effect of January's catastrophic earthquake on Haiti's artists ("The Art of Resilience," p. 36) combined his passions for journalism, travel and Haitian art, which he has been collecting for 30 years. (His first Haitian painting cost $10.) "I know a lot of the key players, and I care about them," he says. "I was really anxious to see firsthand how they were doing."

Saddened by the devastation and loss of life, he was also heartened by the survivors."I knew that Haitians were a resilient people, who had overcome so much in their history—but I was surprised by the resilience I saw, particularly among people like [artist] Préfète Duffaut, who was sleeping in a tent. He is in his 80s, and he has no intention of quitting. He and a number of other artists were starting to paint what they saw on the streets—what has become known as 'earthquake art.' They are doing exceptional work under extremely difficult circumstances, with just a few tools and a few cans of paint."

CAROLINE ALEXANDER, whose latest book is *The War That Killed Achilles: The True Story of Homer's Iliad and the Trojan War*, says she is drawn to "stories of courage and striving and the response of human beings to the circumstances they are put in." This month, she investigates shell shock, first identified in World War I ("The Shock of War," p. 58). "This story is horrific in its own terms just as a piece of history," says Alexander, "to watch what these young men were going through, baffled as they were by what they perceived as the failure of their own spirit, their sudden inability to be courageous. But I also began to feel that it was very instructive—that it was a mirror to what we are looking at today. To me, shell shock is the ultimate metaphor of war, because whatever it is—psychological or physiological or both—it is somehow symbolic: there are things that human beings can't sustain. You can literally be rocked out of your mind."

AXELLE LIAUTAUD; FRANTZ ZÉPHIRIN / GALERIE MONNIN

SMITHSONIAN commissioned Haitian artist Frantz Zéphirin to paint our cover, which, he says, depicts the international philanthropic response to Haiti's earthquake. The 18- by 24-inch painting will be auctioned, with proceeds going to the artist and his gallery and to the Smithsonian Institution-Haiti Cultural Recovery Project. For information: Smithsonian.com/haitiauction.

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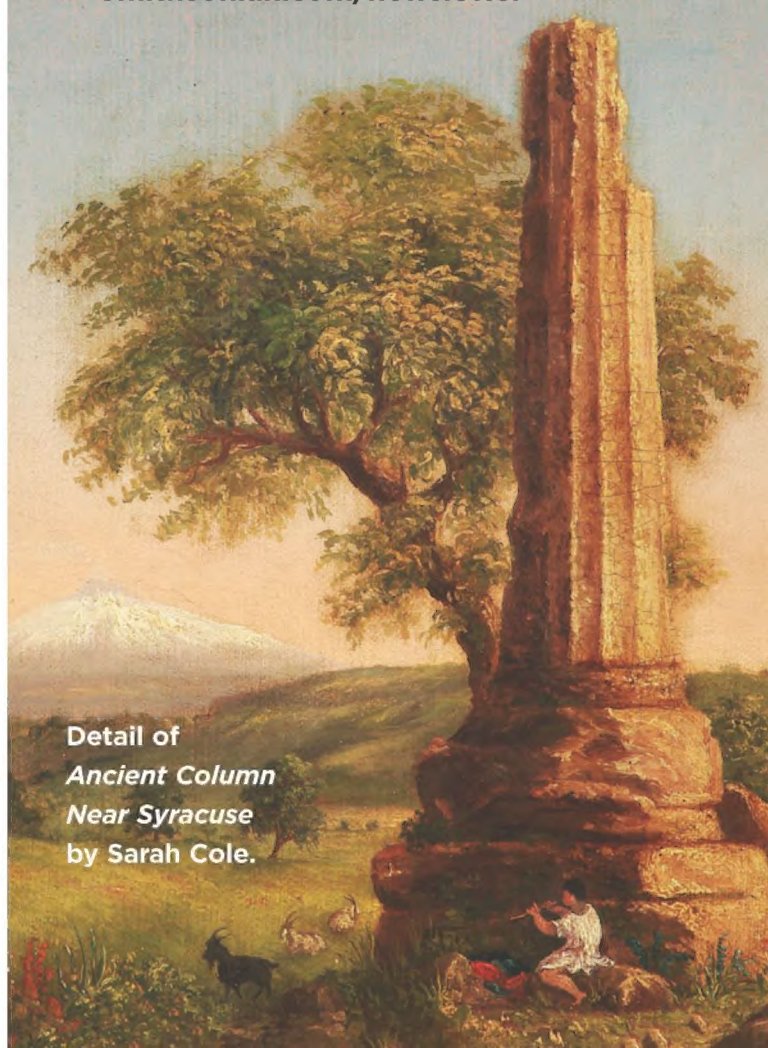

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Detail of *Ancient Column Near Syracuse* by Sarah Cole.

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LOS ANGELES, CA

A new exhibition on David Alfaro Siqueiros, featuring more than 100 works from across the continent, explores this fertile period in the life and work of an iconic 20th Century artist, as well as those who followed him. *Siqueiros in Los Angeles: Censorship Defied*, will debut at the Autry National Center on Museum Day.

David Alfaro Siqueiros, Marcha Revolucionaria (Revolutionary March or Protest), 1935 (detail). Pyroxylin on copper. Collection of Palm Springs Art Museum; Gift of the Estate of Herbert E. Toor. David Alfaro Siqueiros Estate/SOMAAP

DALLAS MUSEUM OF ART
DALLAS, TX

On Museum Day, the Dallas Museum of Art celebrates the grand re-opening of the Center for Creative Connections. The exhibition *Encountering Space* presents works of art from the Museum's Western and non-Western collections for visitors to consider how space is used within the works.

TAMPA MUSEUM OF ART
TAMPA, FL

The Tampa Museum of Art celebrates the theme of the garden in American art and society in the nineteenth and early twentieth centuries with the opening of *The American Impressionists in the Garden*. Paintings and sculptures explore this fascinating and beautiful subject matter that influenced the impressionist movement in America.

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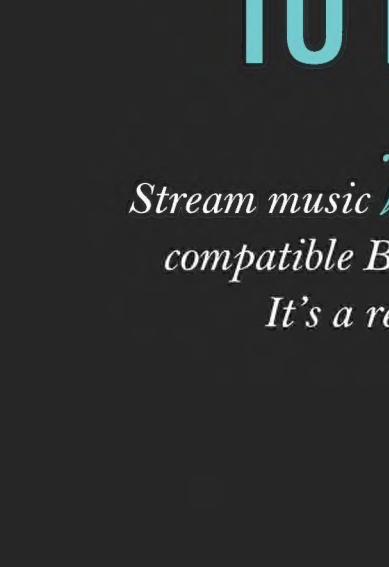

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moving forward

LETTERS READERS RESPOND TO THE **JULY/AUGUST** ISSUE

Joel Kotkin's thesis ["Ready, Set, Grow"] is essentially a population Ponzi scheme. The argument that population growth inevitably spurs economic growth is untenable. What makes an economy strong is productivity, not a continual population pyramid in a world of finite resources.

LEAH DURANT, WASHINGTON, D.C.

ROOM FOR EVERYONE?

JOEL KOTKIN STATES "the nation's landmass is large enough—about 3 percent is currently urbanized—to accommodate" 100 million more people. Apparently he hasn't traveled to places like Nevada or Utah, which are exotically beautiful but mostly uninhabitable. His vision of the future would have us standing shoulder to shoulder from coast to coast marveling at beautiful sunsets enhanced by pollution from the additional millions he happily anticipates.

BOB KROPFLI
GOLDEN, COLORADO

YOUR JULY/AUGUST 2010 issue deserves to be read by everyone in our country. I was particularly impressed with "Ready, Set, Grow." Yes, our country will face many problems in the next 50 years, but we are, by nature, an inquisitive and generous people. We have within our boundaries many of the world's greatest learning institutions, which can instill in our youth the necessity to be open to new ideas even if they contradict previous cherished beliefs. I have visited science fairs and been amazed and encouraged at the curiosity, creativity and problem-solving abilities in our youngest grade-school children. They have already begun to prove themselves worthy as the next resourceful and innovative successors. Given the right tools and encouragement, they will prosper beyond our wildest imagination.

ALAN VIGEANT
SAN MARCOS, CALIFORNIA

HIGH-TECH SKEPTICISM

THOUGH I DON'T expect to be around in 2050, if the vision many of your writers present in your 40th anniversary issue is accurate, it should be pretty nice—provided one stays inside and lives on high ground. The picture of benign, even joyful and ever-increasing involvement of technology in human life is appealing. One wonders how true it will prove to be. Is anyone considering the vast potential of technology to be not just intrusive but also detrimental to our quality of life? (And I'm not even talking about advanced weapons.) Dare we assume that anyone who can wield technology will do so only for the common good? Will our definition of "human" have to change as technology advances? Will the human capacity for creativity be diminished? Will technology become our preferred form of contact with each other? Where will humans find simpler, more human ways to express themselves?

KAREN FERRELL
POWDER SPRINGS, GEORGIA

STANDING IN THE shadows of future developments in technology is the Law of Unintended Consequences. The possibility of all of us being "connected" at all times (whatever that means) could lead to not only a global family but Orwell's Big Brother, 21st-century style. We have only to contemplate the negative sides of such innovations as TV, computers, the Internet and nuclear physics. As we know, every technological advance has been abused in the name of profits, privilege and power.

SOL COHEN
VALLEJO, CALIFORNIA

WINNING ISN'T EVERYTHING

WHILE I APPRECIATE President Obama's efforts, as the leader of this nation, to express a hopeful outlook for the future ["Why I'm Optimistic"], I felt that some of his remarks were off-key. Why must we "outcompete nations around the world"? Why must we lead the global economy and place first in the energy race? This winner/loser kind of thinking leads to divisiveness instead of cooperation, waste instead of sustainability. We must find ways for all people to care about each other and help each other survive, and we must work together to preserve our only home, Earth.

MARILETA ROBINSON
MILANVILLE, PENNSYLVANIA

I FOUND YOUR anniversary edition full of troublingly optimistic, pie-in-the-sky solutions for our future. So scientists, designers, artists and "Yes, we can" poli-

tics will save our bacon? Among your "40 Things You Need to Know" was number 12: "The top U.S. social problem? Upward mobility." What about weaning society from consumerism and instilling an ethos of thrift?

ANDY CRITES
LEWISTOWN, MONTANA

ADDICTED TO LITHIUM

PEOPLE SHOULD not forget that most electric cars are not totally emission-free ["Charging Ahead"]. The energy to recharge those lithium batteries will be coming from electric-power plants, many of which are fossil-fueled and account for some 40 percent of our greenhouse gases. In addition, there are still questions about the possible strain on the power grid. And let's not forget that a large portion of the known lithium reserves is in Bolivia and China. Do we trade our oil dependence for lithium dependence?

KERMIT HEID
SALT LAKE CITY, UTAH

ENVIRONMENTAL ZEAL

THIS WAS one of the most disappointing issues of SMITHSONIAN I have read. The world's problems are primarily associated with population growth. Famine, inadequate water, inadequate energy supplies and so forth are all driven by too many people. How could you not recognize that and discuss how we might solve that problem—too touchy? Too politically sensitive? Not as "interesting" as saving wetlands or eating jellyfish?

CHRISTOPHER M. TIMM
ALBUQUERQUE, NEW MEXICO

I AM NO EMINENT businessman, politician or scientist, but after reading your 40th anniversary issue, I too have a prediction: anyone reading this issue in the year 2050 will be both surprised and bemused by our current fixation, bordering on hysterical obsession, on the environment. The current environmental movement is rapidly morphing into a secular version of religious fanaticism, replete with its own brand of brow-furrowed fervor, self-righteousness and apocalyptic warnings of doom. Your 40th anniversary issue resembles more a Book of Revelations for extreme environmentalism than the balanced and informative SMITHSONIAN I've enjoyed in the past.

JERRY SHORES
PINELLAS PARK, FLORIDA

HIGH STANDARDS

THE 40TH ANNIVERSARY issue was outstanding. Our future hope is that the publication's cutting edge will not be dulled in the next 40 years by people, power or politics.

TOM AND SUSAN LAWVER
COLVILLE, WASHINGTON

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The 6th Annual

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Here are some tips to make your experience fun and educational

AT THE MUSEUM

Get your information straight!

A quick visit to the museum information center will provide you with all of the materials necessary to plot a course through the museum.

Collect information along the way.

Museums are a great place to experience new things, but there is so much to learn it can be overwhelming! One way to focus is to write notes and sketch along the way – jot down the things you like, questions you have and discoveries you make.

Photograph for memory.

If the museum allows it, photograph and film your journey throughout the museum to remember what you saw, and to help illustrate a "Great Visit" journal after the trip.

Take it easy.

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Crude Awakening

Scientists are just beginning to grasp how profoundly oil has devastated the Gulf of Mexico **BY MICHELLE NIJHUIS** PHOTOGRAPHS BY MATT SLABY

LIFE SEEMS ALMOST NORMAL along the highway that runs the length of Grand Isle, a narrow curl of land near the toe of Louisiana's tattered boot. Customers line up for snow cones and po' boys, graceful live oaks stand along the island's central ridge, and sea breezes blow in from the Gulf of Mexico. But there are few tourists here this summer. The island is filled with cleanup crews and locals bracing for the next wave of anguish to wash ashore from the crippled well 100 miles to the southeast.

Behind Grand Isle, in the enormous patchwork of water and salt marsh called Barataria Bay, tar balls as big as manhole covers float at the surface. Oily sheens, some hundreds of yards across, glow dully on the water. Below a crumbling brick fort built in the 1840s, the marsh edges are smeared with thick brown gunk. A pair of dolphins break the water's surface, and a single egret walks along the shore, its wings mottled with crude. Inside the bay, the small islands that serve as rookeries for pelicans, roseate spoonbills and other birds have suffered waves of oil, and many of the mangroves at the edges have already died. Oil is expected to keep washing into the bay for months.

Even here, at the heart of the disaster, it's hard to fathom the reach of the spill. Oil is penetrating the Gulf Coast in countless ways—some obvious, some not—and could disrupt habitats and the delicate ecology for years to come. For the scientists who have spent decades trying to understand the complexities of this natural world, the spill is not only heartbreaking, but also deeply disorienting. They are just beginning to study—and attempting to repair—a coast transformed by oil.

ABOUT A HUNDRED MILES INLAND from Grand Isle, on the shady Baton Rouge campus of Louisiana State University, Jim Cowan and a dozen of his laboratory members gather to discuss their next move. In the agonizing days since the spill began, Cowan's fisheries lab has become something of a command center, with Cowan guiding his students in documenting the damage.

"We know the bounds of the ecosystem," says Jim Cowan (inset). This page: an oil-containment boom near Grand Isle.

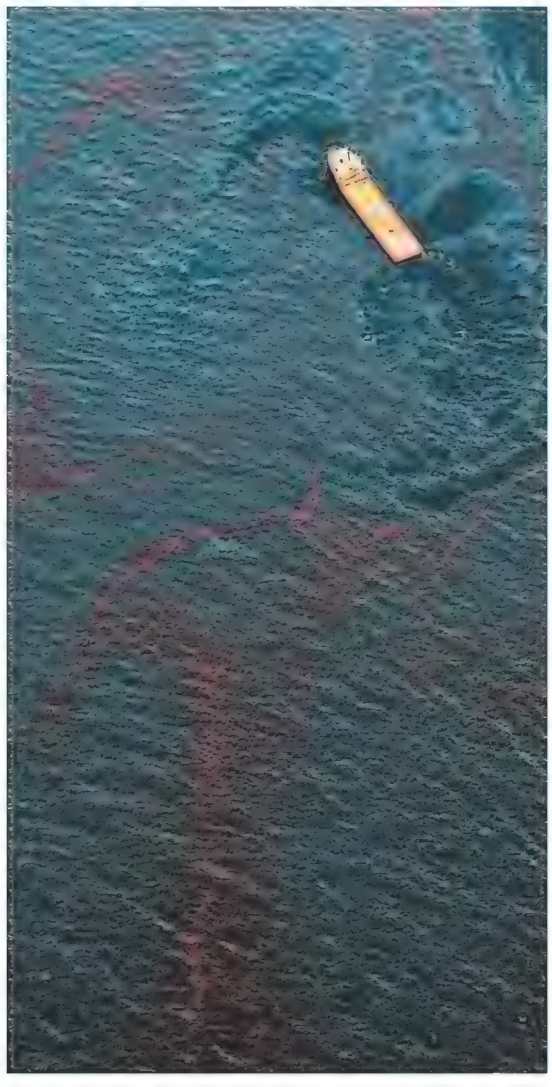
Cowan grew up in southern Florida and has a particular affection for the flora, fauna and people of the lush wetlands of southern Louisiana; he's studied Gulf ecosystems from inland marshes to offshore reefs. Much of his research has focused on fish and their habitats. But now he worries that the Gulf he's known for all these years is gone. "These kids are young, and I don't think they realize yet how it's going to change their lives," he says of the oil. "The notion of doing basic science, basic ecology, where we're really trying to get at the drivers of the ecosystem . . . " He pauses and shakes his head. "It's going to be a long time before we get oil out of the equation."

Cowan knows all too well that the Deepwater Horizon spill is only the latest in an almost operatic series of environmental disasters in southern Louisiana. The muddy Mississippi River used to range over the entire toe of Louisiana, building land with its abundant sediment. As people constructed levees to keep the river in place, the state began to lose land. The marshy delta soil continued to compact and sink below the water, as it had for millennia, but not enough river sediments arrived to replace it. Canals built by the oil and gas industry sped soil erosion, and violent storms blasted away exposed fragments of marshland. Meanwhile, as the flow of river water changed, the Gulf of Mexico began to intrude inland, turning freshwater wetlands into salt marshes.

Today, southern Louisiana loses about a football field's worth of land each and every half-hour. Pavement ends abruptly in water, bayous reach toward roadsides, and mossy crypts tumble into bays. Nautical maps go out of date in a couple of years, and boat GPS screens often show watercraft seeming to navigate over land. Every lost acre means less habitat for wildlife and weaker storm protection for humans.

But for Cowan and many other scientists who study the Gulf, the oil spill is fundamentally different. Though humans have dramatically accelerated Louisiana's wetlands loss, soil erosion and seawater intrusion, these are still natural phenomena, a part of the workings of any river delta. "The spill is completely foreign," Cowan says. "We're adding a toxic chemical to a natural system."

ONE OF THE LARGEST shrimp docks in North America, a jumble of marinas, warehouses, nets and masts, stands on the bay side of Grand Isle. In the wake of the spill, many shrimp boats are docked, and those on the open water are fitted not with nets but with loops of oil-skimming orange boom. The shrimp processing sheds, usually noisy with conveyor belts and rattling ice and voices sharing gossip and jokes, are silent.



The Gulf catastrophe (left: a workboat and oil slicks near the site of the destroyed Deepwater Horizon platform) will have far-reaching effects, which scientists (above: Joris van der Ham and Kim de Mutsert in Barataria Bay) have only begun to study (right: netted fish that will be tested for contaminants).

One lone boat is trawling Barataria Bay, but it's not netting dinner. Kim de Mutsert and Joris van der Ham, postdoctoral researchers in Cowan's lab, are sampling fish and shrimp from both clean and oiled marshlands. The Dutch researchers are known for their tolerance of rough water. "Kim, she's fearless," says Cowan. "Man, she scares me sometimes."

The outer bands of a hurricane are beginning to whip the water with wind and drizzle, but De Mutsert and Van der Ham steer their 20-foot motorboat into the bay. Calling instructions to each

ALL PHOTOS: MATT SLABY / LUCEO; P. 11 LEFT: DAVE MARTIN / AP IMAGES

Louisiana's vast wetlands (above: near Grand Isle) are rich, delicate ecosystems that scientists say are particularly susceptible to oil (below: mangroves touched by the spill are dying).

other in Dutch, they soon arrive at a small island of cordgrass and mangroves, one of their lightly oiled study sites.

At their first sampling point, in shallow, bathtub-warm water near the island, Van der Ham stands at the back of the boat, gripping the metal-edged planks at the mouth of a long, skinny net. It's a kind of trawl used by many commercial shrimpers. "Except their nets are a lot bigger, and they're a lot better at using them," says Van der Ham as he untangles some wayward ropes.

After ten minutes of trawling, De Mutsert and Van der Ham muscle up the net, which is twitching with dozens of small, silvery fish—menhaden, croaker and spot. A few shrimp—some juveniles with jellylike bodies, some adults nearly eight inches long—intermingle with the fish. All of these species depend on marshlands for survival: they spawn at sea, and the juvenile fish and shrimp ride the tides into Barataria and other bays, using the estuaries as nurseries until they grow to adulthood.

When De Mutsert returns to the lab in Baton Rouge, she'll debone her catches—"I'm really good at filleting very tiny fish," she says, laughing—and analyze their tissue, over time building a detailed picture of the sea life's growth rates, overall health, food sources and the amount of oil compounds in their bodies.

The fish and shrimp are members of an enormously complex food web that spans the Louisiana coast from inland freshwater swamps to the edge of the continental shelf and beyond. Freshwater plants, as they die and float downstream, supply nutrients; fish and shrimp that grow to adulthood in the marshes return to sea to spawn on the continental shelf; larger fish like grouper and red snapper, which spend their lives at sea, use coral reefs to forage and spawn. Even the Mississippi River, constrained as it is, provides spawning habitat for tuna where its water meets the sea.

Unlike the *Exxon Valdez* spill in Alaska, in which a tanker dumped oil on the surface of the water, the BP oil gushed from the seafloor. Partly because of BP's use of dispersants at the wellhead, much of the oil is suspended underwater, only slowly making its way to the surface. Some scientists estimate that 80 percent is still underwater—where it can smother sponges and corals, interfere with many species' growth and reproduction, and do long-term damage to wildlife and habitats.

"The oil is coming into the food web at every point," says Cowan. "Everything is affected, directly and indirectly, and the indirect effects may be the more troubling ones, because they're so much harder to understand." Data from De Mutsert and others in the lab will illuminate where the food web is most stressed and suggest ways to protect and repair it.

As penetrating rain descends, De Mutsert and Van der Ham matter-of-factly don rain jackets and keep trawling, stopping just before sunset. Their samples secured, they finally make a break for shore, slamming over the growing whitecaps in the failing light, then maneuvering around tangles of floating, oil-soaked boom. Drenched

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to the skin, they pull into the dock.

"Yeah," De Mutsert acknowledges nonchalantly. "That was a little crazy."

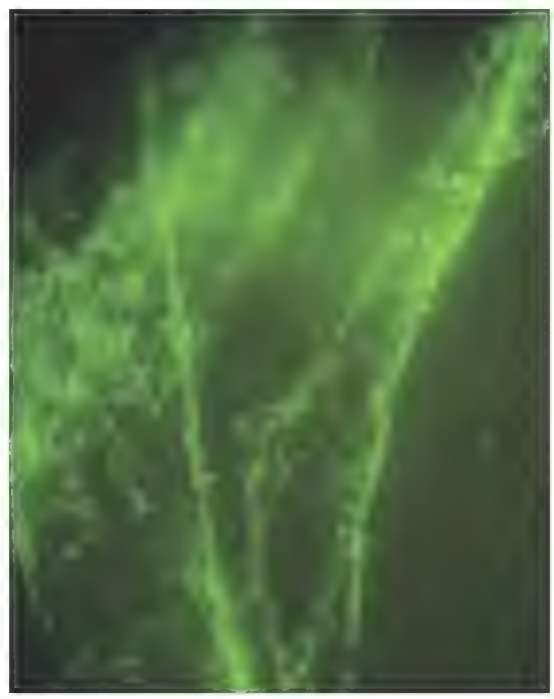
But tomorrow, hurricane notwithstanding, they'll do it all again.

JIM COWAN'S FRIEND and colleague Ralph Portier paces impatiently along the edge of Barataria Bay, on the inland shore of Grand Isle. He is a boyish-faced man whose rounded initial t's give away his Cajun heritage. "I want to get to work so bad," he says.

Portier, an environmental biologist at Louisiana State, specializes in bioremediation—the use of specialized bacteria, fungi and plants to digest toxic waste. Bioremediation gets little public attention, and fiddling with the ecosystem does carry risks, but the technique has been used for decades, quietly and often effectively, to help clean up society's most stubborn messes. Portier has used bioremediation on sites ranging from a former mothball factory in Cambridge, Massachusetts, to a 2006 Citgo spill near Lake Charles, Louisiana, in which two million gallons of waste oil flowed into a nearby river and bayou following a violent storm. He has collected promising organisms from all over the world, and labels on the samples of microorganisms in his lab freezers and refrigerators betray a litany of disasters. "Name a Superfund site, and it's in there," he says.

All but the most toxic of toxic waste sites have their own naturally occurring suite of microorganisms, busily chewing away at whatever was spilled, dumped or abandoned. Sometimes Portier simply encourages these existing organisms by adding the appropriate fertilizers; other times he adds bacterial reinforcements.

Portier points out that other oil-spill cleanup techniques—booms, shovels, skimmers, even paper towels—may make a site look better but leave a toxic residue. The rest of the job is usually accomplished by oil-eating bacteria (which are already at work on the BP spill) digesting the stuff in marshes and at sea. Even in a warm climate like the Gulf coast, the "bugs," as Portier calls them, can't eat fast enough to save the marsh grasses—or the entire web of other plants and animals affected by the spill. But he thinks his bugs could speed the natural degradation process and make the difference between recovery and disappearance for a great deal of oily marshland. Desperate to give it a try, he is waiting for permits to test his technique. He says his biological reactors, large black plastic tanks sitting idle at the water's edge, could make some 30,000 gallons of bacterial solution a day—enough to treat more than 20 acres—at a cost of about 50 cents a gallon. "I really think I could help clean this thing up," he says.



"It's sort of like I've been training to do this all my life," says Ralph Portier (above), an environmental biologist who grew up on a bayou and deploys chemical-digesting microbes (below: a dish of bacteria marked with fluorescent dyes) to clean up toxic waste.

Like Cowan, Portier worries about the three-dimensional nature of the BP spill. As the millions of gallons of oil from the broken well slowly rises to the surface in coming months, it will wash ashore again and again, creating, in effect, recurrent spills on the beaches and marshlands. "Here, the legacy is in the ocean, not on the beach," Portier says. "This spill is going to give us different kinds of challenges for years to come."

Yet Portier is more optimistic than Cowan. If he can employ his bugs on the Louisiana coast, he says, salt marsh and other wetland habitat could start recovering in a matter of months. "My ideal scenario for next spring is that we fly over the bayous of Barataria and see this huge green band of vegetation coming back," he says.

Portier has a personal stake in the spill. He was raised just west of Barataria Bay. He and his eight siblings have four PhDs and a dozen master's degrees among them. They now live all over the Southeast but return to Bayou Petit Caillou several times a year. Oil has already appeared at the mouth of his home bayou.

When Portier was growing up, he remembers, hurricanes were a part of life. If a storm threatened, his entire family—uncles, aunts, cousins, grandparents—would squeeze into his parents' house, which sat on relatively high ground. As the storm roared over them, his relatives would telephone their homes down the bayou. If the call went through, they knew their house was still there. If they got a busy signal, that meant a problem.

Today, what Portier hears in the marshes—or doesn't hear—is worse than a busy signal. "It's the new Silent Spring in there," he says. "You usually hear birds singing, crickets chirping, a whole cacophony of sound. Now, you hear yourself paddling, and that's it."

He hopes it won't be long before the marshes once again pulse with chirps, croaks and screeches. "When I hear crickets and birds again in those marshes, that's how I'll know," he says. "That's how I'll know the phone is ringing."

MICHELLE NIJHUIS *has written about puffins, Walden Pond and the Cahaba River for* SMITHSONIAN. **MATT SLABY** *is a photographer based in Denver.*

BOTTOM: R. PORTIER & M. WILLIAMS / LSU

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The Rarest Bird

Newfound negatives record a very close encounter with a young ivory-billed woodpecker

BY STEPHEN LYN BALES PHOTOGRAPHS BY JAMES T. TANNER

THE IVORY-BILLED WOODPECKER is one of the most extraordinary birds ever to live in America's forests: the biggest woodpecker in the United States, it seems to keep coming back from the dead. Once resident in swampy bottomlands from North Carolina to East Texas, it was believed to have gone extinct as early as the 1920s, but sightings, confirmed and otherwise, have been reported as recently as this year.

James T. Tanner (above: in 1937) spotted an ivory-bill in Louisiana in 1938. Since then, six photographs he took of the bird with guide J.J. Kuhn (including the one opposite) were believed to be the only pictures of a living nestling.

The young ornithologist James T. Tanner's sightings in the late 1930s came with substantial documentation: not only field notes, from which he literally wrote the book on the species, but also photographs. In fact, Tanner's photographs remain the most recent uncontested pictures of the American ivory-bill. Now his widow, Nancy Tanner, has discovered more photographs that he took on a fateful day in 1938.

Tanner was a doctoral candidate at Cornell University when, in 1937, he was sent to look for ivory-bills in Southern swamplands, including a vast virgin forest in northeast Louisiana called the Singer Tract. Two years earlier, his mentor, Arthur Allen, founder of the Cornell Laboratory of Ornithology, had proved that the "Lord God" bird—so named for what people supposedly exclaimed after getting a look at its 20-inch body and 30-inch wingspan—was still extant, with observations of several adult ivory-bills in the same forest.

"There are relatively few references to young Ivorybills," Allen wrote in 1937, "and there is no complete description of an immature bird." But that would soon change.

On his initial solo trip to the Singer Tract, Tanner became the first person to provide such a description, after watching two adults feed a nestling in a hole they'd carved high in a sweet gum tree. "It took me some time to realize that the bird in the hole was a young one; it seemed impossible," he scribbled in his field notes. When he returned to those woods in early 1938, he discovered another nest hole, 55 feet off the ground in the trunk of a red maple. And in it he discovered another young ivory-bill.

Watching the nest for 16 days, Tanner noted that the bird's parents usually foraged for about 20 minutes at midday. No ivory-bill had ever been fitted with an identifying band, so Tanner resolved to affix one to the nestling's leg while its parents were away.

On his 24th birthday, March 6, 1938, Tanner decided to act. Up he went, on went the band—and out came the ivory-bill, bolting from the nest in a panic after Tanner trimmed a branch impeding his view of the nest hole. Too young to fly, the bird fluttered to a crash landing "in a tangle of vines," Tanner wrote in his field notes, "where he clung, calling and squalling." The ornithologist scrambled down the tree, retrieved the bird and handed it to his guide, J. J. Kuhn. "I sure-

LSU

JAMES T. TANNER / NANCY TANNER COLLECTION

Last year Tanner's widow, Nancy (below: with the author in May 2010), discovered eight additional negatives her husband made of the ivory-bill out of its nest. The resulting prints (including the six above) show the bird as delicate but lively. "I surely thought . . . I had messed things up," Tanner wrote in 1938, but he returned the bird safely to its nest, "probably as glad as he that he was back there."

ly thought that I had messed things up," Tanner wrote. But as the minutes ticked away, he "unlimbered" his camera and began shooting, "jittery and nervous as all get-out," unsure of whether he was getting any useful pictures. After exhausting his film, he returned the bird to its nest, "probably as glad as he that he was back there."

When Tanner's Cornell dissertation was published as *The Ivory-Billed Woodpecker* in 1942, the book included two pictures of the juvenile bird perched on Kuhn's arm and head. Those frames, along with four others less widely printed—the only known photographs of a living nestling ivory-bill—have provided generations of birders with an image laden with fragile, possibly doomed, hope.

In a 1942 article for the ornithological journal *The Wilson Bulletin*, Tanner wrote "there is little doubt but that complete logging of the [Singer] tract will cause the end of the Ivorybills there." The tract was indeed completely logged, and an ivory-bill sighting there in 1944 remains the last uncontested observation anywhere in the United States. Before he died at age 76 in 1991, Tanner, who taught for 32 years at the University of Tennessee, had sadly

concluded that the species was extinct.

Three years ago, I began working with Nancy Tanner on a book about her husband's fieldwork. In June 2009, she discovered a faded manila envelope in the back of a drawer at her home in Knoxville, Tennessee. In it were some ivory-bill images. At her invitation, I started going through them.

One of the first things I found was a glassine envelope containing a 2 1/4- by 3 1/4-inch negative. Holding it up to the light, I realized it was of the nestling ivory-bill from the Singer Tract—an image I had never seen. I quickly found another negative, then another and another. My hands began to shake. It turned out that Tanner had taken not 6 pictures on that long-ago March 6, but 14. As a group, they show the young bird not frozen in time, but rather clambering over Kuhn like a cat on a scratching post, frightened but vital.

Like almost any ornithologist, Jim Tanner would have liked to have been proved wrong about the ivory-bill's fate. In 2005, the Cornell Laboratory of Ornithology announced that searchers had seen an ivory-bill multiple times in ten months in the Big Woods in Arkansas. Other researchers, connected to Auburn University, reported 13 sightings in 2005 and 2006 along the Choctawhatchee River in Florida's panhandle. In both cases, the sightings were made by experienced observers, including trained ornithologists. Yet neither group's documentation—including a 4.5-second video of a bird in Arkansas—has been universally accepted. So the wait for incontrovertible evidence continues. Photographs like the ones Jim Tanner took in 1938 would do nicely.

STEPHEN LYN BALES *is a naturalist in Knoxville. His book about James Tanner,* Ghost Birds, *is due out this month.*

JAMES T. TANNER / NANCY TANNER COLLECTION (6); STEPHEN LYN BALES

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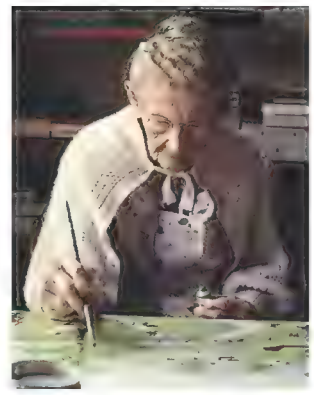
THIS MONTH IN HISTORY

SEPTEMBER ANNIVERSARIES
MOMENTOUS OR MERELY MEMORABLE

BY ALISON McLEAN

390 YEARS AGO
PILGRIMS' PROGRESS

The *Mayflower* sets sail from Plymouth, England, September 6, 1620, with 102 passengers determined to start a colony in the New World. Beset on the 66-day voyage by storms that damage the ship, the colonists, their leader William Bradford writes later, "commited them selves to the will of God, and resolved to proseede" rather than return. They land at Cape Cod November 11.



150 YEARS AGO
LATE BLOOMER

Anna Mary Robertson is born in Greenwich, New York, September 7, 1860, some 75 years before she embarks on the painting career that makes "Grandma Moses" a household name. A farm wife—she marries Thomas Moses in 1887—she starts painting when arthritis puts an end to her needlework. In 1938, her naive paintings of old-timey rural life, displayed in a drugstore window, catch a collector's eye, and Moses is soon exhibiting in New York City. She paints some 1,600 works to popular acclaim before dying, in 1961, at age 101.

50 YEARS AGO IT'S DEBATABLE

Senator John F. Kennedy and Vice President Richard M. Nixon face off in the first televised presidential debate September 26, 1960. As a tanned, fit-looking Kennedy debates a thin, wan Nixon (recovering from the flu and recent knee surgery) in need of a shave, the subject is policy, but the take-home message is that on TV, appearances matter. Exactly how much the event affects Kennedy's fall victory is itself a matter of debate, but more than half of voters report the contest influenced their opinion. Nixon declines to debate in 1968 and, as president, in 1972.

70 YEARS AGO UNDERGROUND ART

Four teenage boys exploring a fox den in a French hill near Montignac on September 12, 1940, discover a cavern with walls covered in a menagerie of enormous bulls, horses and deer. The more than 2,000 artworks in the cave, known as Lascaux—including one rare image of a human—date to the Paleolithic period, circa 18,000 years ago. Open to the public in 1948, the cave closes in 1963 as part of an ongoing effort to protect the art from the contaminating effects of visitors and climate changes.

110 YEARS AGO IMPERFECT STORM

The deadliest hurricane in U.S. history slams into Galveston, Texas, on the afternoon of September 8, 1900. Many of the island city's 37,000 residents have survived storms before and believe they can ride this one out too. "I just felt that it could not come," says Bible teacher Ida Austin. But the hurricane brings 130-mph winds and a 15-foot storm surge that overwhelms the 8.7-foot-high island, destroying the city and killing more than 6,000 people. Today Galveston sits behind a 17-foot-high sea wall—surmounted in 2008 by Hurricane Ike.

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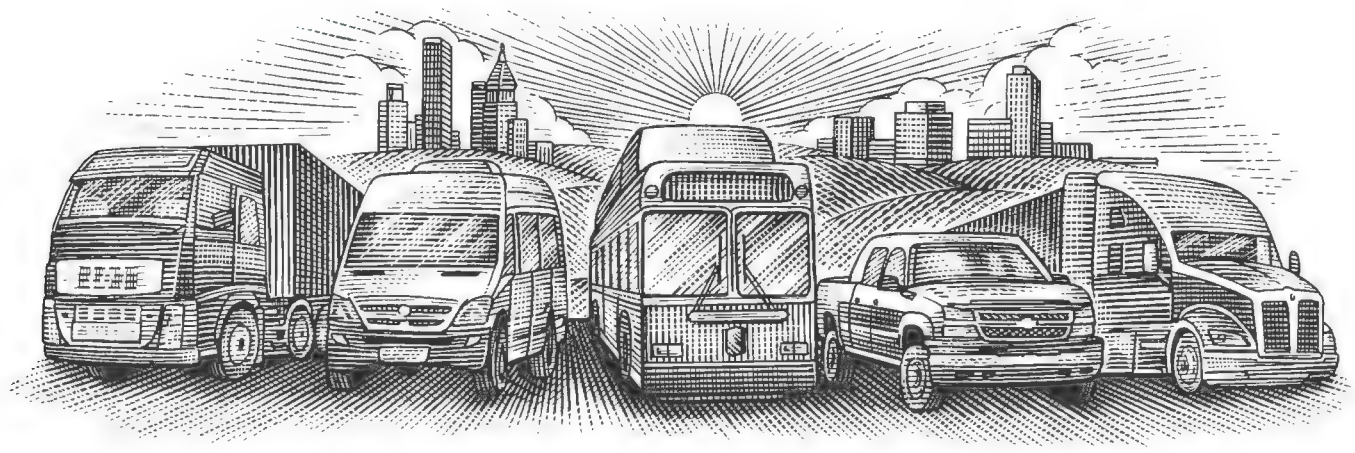

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Consider this: If we merely converted our over-the-road trucks, metro buses, refuse trucks and fleet vehicles to clean-burning American natural gas, we could reduce our foreign oil dependence by at least 30% within 10 years, all while improving our environment and saving $1 trillion of hard-earned American income as a result.

OVER-THE-ROAD ECONOMICS

Today, U.S. production of Class 8 vehicles (tractor trailers) ranges from 200,000 to 300,000 units annually with assembly facilities employing approximately 37,000 individuals; utilizing natural gas in this sector will support and increase these American jobs.

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FIND YOUR ROUTE TO ADVENTURE

Mexico is the 13th largest country in the world: at 758,449 square miles, it is roughly three times the size of Texas. It boasts 5,797 miles of coastland, three major mountain ranges and is made up of 32 states. Due to its immense size and astonishing cultural and geographic diversity, deciding where to travel can be a daunting task.

A convenient and interesting way to plan a trip to Mexico is to consult the ten Mexican Tourism Routes that give tourists an easy way to choose from the many adventures that favor their individual interests.

Personalized Style, Perfect Expesrience

From Mole and Tequila, to Mayan Culture and UNESCO World Heritage Sites, these Routes include a thoughtful variety of attractions and destinations sure to stimulate any traveler's interest. Each Route serves as an informative outline for creating a personal journey by adding special visits along the way. One such Route is *The Fascinating Encounter Between History and Modern Day Mexico.*

History and Modern Day Mexico

In addition to having a rich and exquisite history, Mexico is capable of offering you all of the amenities of a modern country. This Route showcases the Northern region of Mexico, where tradition meets innovation.

The Route begins in Durango, a city known as "The Land of Cinema" because its picturesque views and natural beauty make it a favorite spot

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Monterrey, Nuevo León

Puerto Peñasco

for movie producers to shoot their films. Here travelers can pay homage to the past at the Regional Museum of Durango by studying objects from the primary cultures and the struggle for independence and the revolutionary quest. Durango's gorges and waterfalls also make it a popular place for eco-tourism and extreme sports.

Celebrating Heritage

The next stops on the Route are the towns and cities of Coahuila. Here you can enjoy the restaurants and nightlife of urban areas and then bask in beautiful natural settings outside the cities. Saltillo is known as the "Athens of the North" due to its architecture and strong cultural traditions. These traditions include lively fiestas such as the Santo Cristo de la Capilla, which takes place every August and celebrates mestizo heritage. Parras de la Fuente is a city in the south known for its wine industry — here you can find the oldest winery in the Americas, built in the 16th century.

The Balance of Industry and Nature

Nuevo León's capital city, Monterrey, is one of the most important places in Northwest Mexico thanks to its large population, strong manufacturing base, fine restaurants, first-rate hotels and many museums. Just outside of this bustling city are beautiful natural resources such as the Huasteca Canyon and the Chipinque Ecological Park. These natural protected areas allow you the opportunity to marvel at the immense biodiversity that Mexico has been working so hard to conserve.

An Oasis in the Desert

The final stop on this Route is the state of Sonora, where the inhabitants have managed to develop the rough conditions of the desert into the major city of Hermosillo. Here you can attend one of the most important cultural events in Mexico: the Dr. Alfonso Ortiz Tirado Festival. This ten-day festival takes place each year in January, and includes artists from various Mexican states, Spain, the United States, Brazil and Germany.

A Future Rooted in the Past

Exploring the Route through Modern Mexico is a great way to discover the culture and historic wealth that is still a part of modern day Mexico. Between the vast landscapes and thriving, bustling businesses, it is apparent that much of modern Mexico still has very strong ties to the past.

▸ For more information on the Routes of Mexico visit www.visitmexico.com, or www.smithsonian.com/mexico

San Carlos

DISCOVER MEXICO THROUGH ITS TEN ROUTES

1. Wine Country and the Aquarium of the World
2. The Millenary Tarahumaras
3. The Magic of Traditions and Nature
4. The Birthplace of History and Romanticism
5. The Art of Tequila and Music Under the Sun
6. The Huastecas and their Outstanding Beauty
7. Thousand Flavors of Mole
8. The Mystery and Origin of the Maya Culture
9. A Colonial Experience
10. Fascinating Encounter Between History and Modern Day Mexico

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WILD THINGS

LIFE AS WE KNOW IT

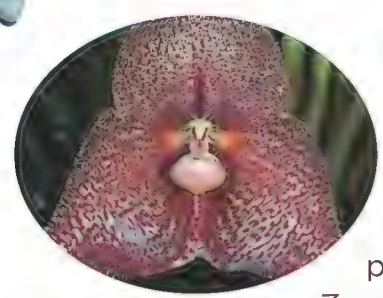
BY T.A. FRAIL, JESSE RHODES, JESSICA RIGHTHAND, BRANDON SPRINGER AND SARAH ZIELINSKI

HOT-BLOODED REPTILES

Sea-dwelling reptiles hundreds of millions of years ago were warmblooded, according to a new study led by Lyon University. It's the clearest sign that some ancient reptiles, unlike modern ones, had a metabolism similar to that of mammals. Oxygen atoms in fossil teeth show plesiosaurs and ichthyosaurs (ten-foot-long *Stenopterygius quadriscissus*) had internal temperatures of 95 to 102 degrees Fahrenheit, even in chilly water.

Observed

NAME: *Carpodacus mexicanus*, or the house finch.
COLOR COUNTS: Males' plumage ranges from pale yellow to deep red, and females find males at the red end of the spectrum most attractive.
BUT CONTEXT MATTERS: Yellowish males try to make themselves look better by hanging out with males that are even yellower, according to a study from the University of Arizona.
AND SOMETIMES WINS: Yellowish or orangish males that changed their social context "had nearly the same success in attracting females as did the most colorful males," says co-author Kevin Oh. In other words, an individual male's social networking can overcome a physical disadvantage.

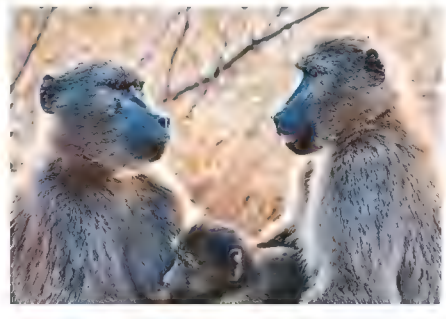


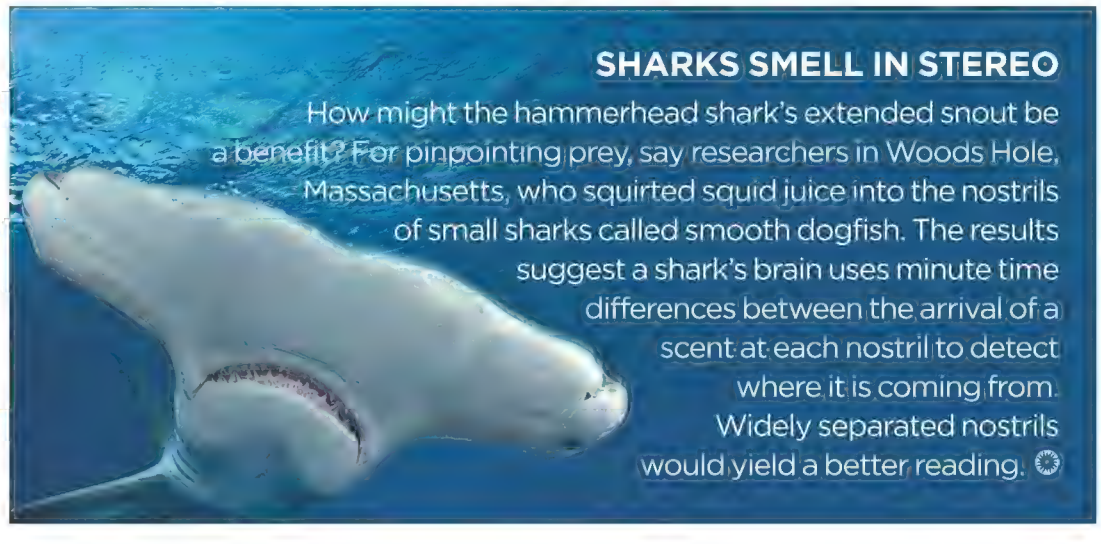
ORCHID BETRAYAL

Researchers in Ecuador have discovered a new trick from a famously deceptive family of flowers. The *Dracula* orchid, so named because its modified leaves resemble flying bats, has a central petal that looks like the small, white mushroom where *Zygothrica* flies mate. The flowers even give off a fungal scent. Why? Flies that congregate on an orchid unwittingly gather pollen and transfer it to the next flower they visit.

GALS WITH PALS LIVE LONGER

Friends are key to reaching a ripe old age, at least for chacma baboons in Botswana. Researchers say females that maintained a stable set of female grooming partners lived years longer than those with fewer or briefer partnerships. Surprisingly, social bonding had a greater impact on an animal's longevity than did her rank in a group's hierarchy.

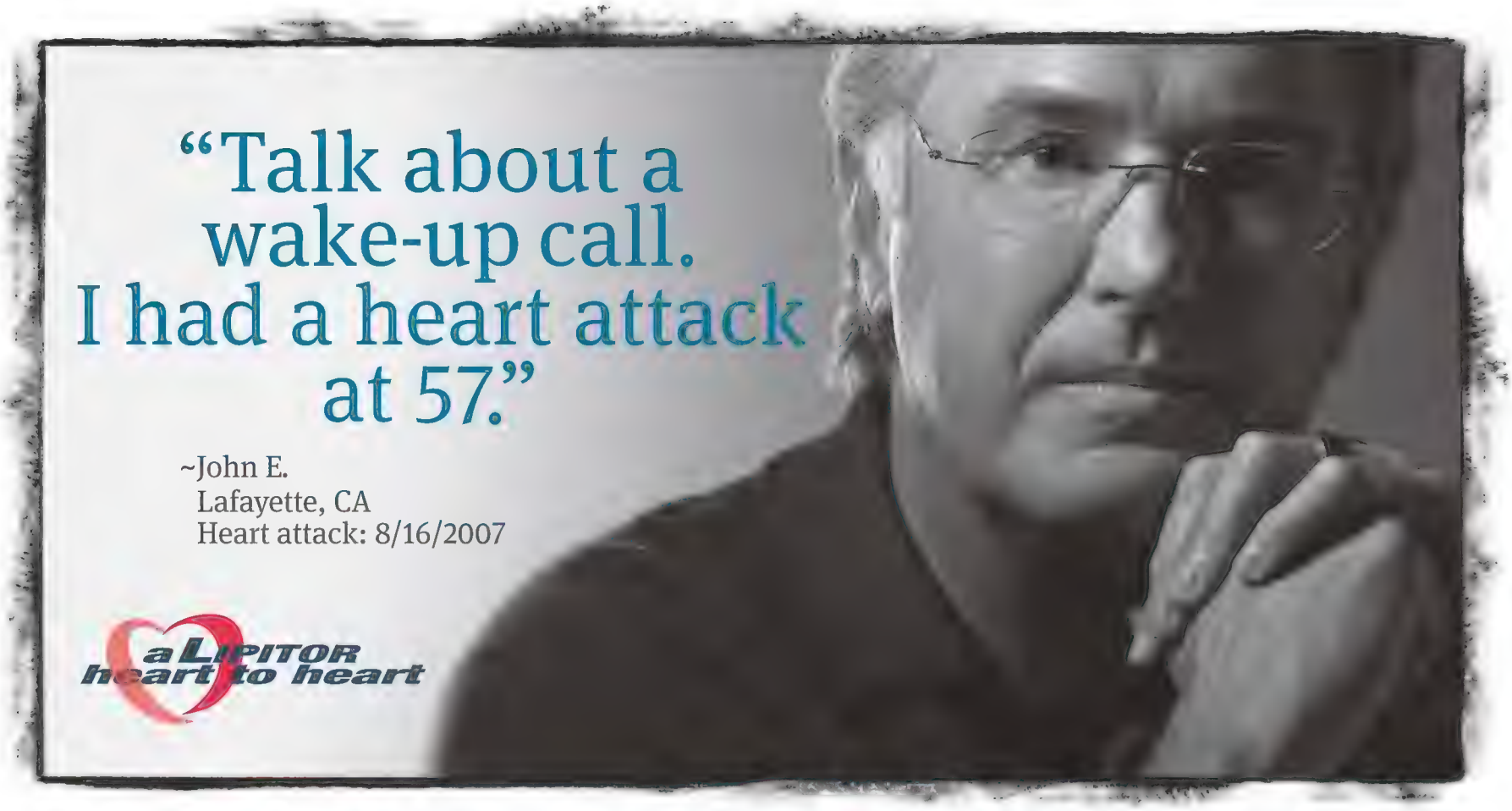




SHARKS SMELL IN STEREO

How might the hammerhead shark's extended snout be a benefit? For pinpointing prey, say researchers in Woods Hole, Massachusetts, who squirted squid juice into the nostrils of small sharks called smooth dogfish. The results suggest a shark's brain uses minute time differences between the arrival of a scent at each nostril to detect where it is coming from. Widely separated nostrils would yield a better reading.

RAUL MARTIN; ALEX BADYAEV / TENBESTPHOTOS.COM; ERIC HUNT; BRETT COLE; BRIAN J. SKERRY / NATIONAL GEOGRAPHIC STOCK



"I should have been doing more for my high cholesterol. I learned the hard way. Now I trust my heart to Lipitor." Talk to your doctor about your risk and about Lipitor.

- When diet and exercise are not enough, adding Lipitor may help. Lipitor is FDA-approved to reduce the risk of heart attack and stroke in patients who have heart disease or risk factors for heart disease, including family history of early heart disease, high blood pressure, low good cholesterol, age and smoking.
- Lipitor has been extensively studied with over 18 years of research. And Lipitor is backed by over 400 ongoing or completed clinical studies.

IMPORTANT SAFETY INFORMATION:
LIPITOR is not for everyone. It is not for those with liver problems. And it is not for women who are nursing, pregnant or may become pregnant.

If you take LIPITOR, tell your doctor if you feel any new muscle pain or weakness. This could be a sign of rare but serious muscle side effects. Tell your doctor about all medications you take. This may help avoid serious drug interactions. Your doctor should do blood tests to check your liver function before and during treatment and may adjust your dose.

Common side effects are diarrhea, upset stomach, muscle and joint pain, and changes in some blood tests.

INDICATION:
LIPITOR is a prescription medicine that is used along with a low-fat diet. It lowers the LDL ("bad" cholesterol) and triglycerides in your blood. It can raise your HDL ("good" cholesterol) as well. LIPITOR can lower the risk for heart attack, stroke, certain types of heart surgery, and chest pain in patients who have heart disease or risk factors for heart disease such as age, smoking, high blood pressure, low HDL, or family history of early heart disease.

LIPITOR can lower the risk for heart attack or stroke in patients with diabetes and risk factors such as diabetic eye or kidney problems, smoking, or high blood pressure.

Please see additional important information on next page.

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IMPORTANT FACTS

LIPITOR atorvastatin calcium tablets (LIP-ih-tore)

LOWERING YOUR HIGH CHOLESTEROL

High cholesterol is more than just a number, it's a risk factor that should not be ignored. If your doctor said you have high cholesterol, you may be at an increased risk for heart attack and stroke. But the good news is, you can take steps to lower your cholesterol.

With the help of your doctor and a cholesterol-lowering medicine like LIPITOR, along with diet and exercise, you could be on your way to lowering your cholesterol.

Ready to start eating right and exercising more? Talk to your doctor and visit the American Heart Association at www.americanheart.org.

WHO IS LIPITOR FOR?

Who can take LIPITOR:

- People who cannot lower their cholesterol enough with diet and exercise
- Adults and children over 10

Who should NOT take LIPITOR:

- Women who are pregnant, may be pregnant, or may become pregnant. LIPITOR may harm your unborn baby. If you become pregnant, stop LIPITOR and call your doctor right away.
- Women who are breast-feeding. LIPITOR can pass into your breast milk and may harm your baby.
- People with liver problems
- People allergic to anything in LIPITOR

BEFORE YOU START LIPITOR

Tell your doctor:

- About all medications you take, including prescriptions, over-the-counter medications, vitamins, and herbal supplements
- If you have muscle aches or weakness
- If you drink more than 2 alcoholic drinks a day
- If you have diabetes or kidney problems
- If you have a thyroid problem

ABOUT LIPITOR

LIPITOR is a prescription medicine. Along with diet and exercise, it lowers "bad" cholesterol in your blood. It can also raise "good" cholesterol (HDL-C).

LIPITOR can lower the risk of heart attack, stroke, certain types of heart surgery, and chest pain in patients who have heart disease or risk factors for heart disease such as:

- age, smoking, high blood pressure, low HDL-C, family history of early heart disease

LIPITOR can lower the risk of heart attack or stroke in patients with diabetes and risk factors such as diabetic eye or kidney problems, smoking, or high blood pressure.

POSSIBLE SIDE EFFECTS OF LIPITOR

Serious side effects in a small number of people:

- **Muscle problems** that can lead to kidney problems, including kidney failure. Your chance for muscle problems is higher if you take certain other medicines with LIPITOR.
- **Liver problems**. Your doctor may do blood tests to check your liver before you start LIPITOR and while you are taking it.

Call your doctor right away if you have:

- Unexplained muscle weakness or pain, especially if you have a fever or feel very tired
- Allergic reactions including swelling of the face, lips, tongue, and/or throat that may cause difficulty in breathing or swallowing which may require treatment right away
- Nausea, vomiting, or stomach pain
- Brown or dark-colored urine
- Feeling more tired than usual
- Your skin and the whites of your eyes turn yellow
- Allergic skin reactions

Common side effects of LIPITOR are:

- Diarrhea
- Upset stomach
- Muscle and joint pain
- Changes in some blood tests

HOW TO TAKE LIPITOR

Do:

- Take LIPITOR as prescribed by your doctor.
- Try to eat heart-healthy foods while you take LIPITOR.
- Take LIPITOR at any time of day, with or without food.
- If you miss a dose, take it as soon as you remember. But if it has been more than 12 hours since your missed dose, wait. Take the next dose at your regular time.

Don't:

- Do not change or stop your dose before talking to your doctor.
- Do not start new medicines before talking to your doctor.
- Do not give your LIPITOR to other people. It may harm them even if your problems are the same.
- Do not break the tablet.

NEED MORE INFORMATION?

- Ask your doctor or health care provider.
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Around the Mall

SCENES AND SIGHTINGS FROM THE SMITHSONIAN MUSEUMS AND BEYOND

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STEPHEN VOSS

JAZZ MAN

CURATOR JOHN EDWARD HASSE TRAVELS THE WORLD TEACHING THE GENRE THAT REVOLUTIONIZED AMERICAN MUSIC

PAGE 30

"Jazz implicitly communicates some of the most cherished core values of our society," says John Edward Hasse.

Lest We Forget

BY G. WAYNE CLOUGH

WE ARE AT OUR BEST as a nation when trying times lead us to redemption, growth and inspiration. Stories from such times—and the lessons they teach—play a key role in the Smithsonian's mission to tell the American story. A case in point: "The Art of Gaman: Arts and Crafts from the Japanese American Internment Camps, 1942-1946," on view through January 30, 2011, at the Renwick Gallery, part of the Smithsonian American Art Museum. During World War II, our government sent 120,000 ethnic Japanese living in the western United States to internment camps; more than two-thirds were American citizens by birth. Most were given barely a week's notice to settle their affairs and report to camp, with possessions limited to what they could carry. They lived in hastily constructed barracks in remote and often barren locations, while several thousand of them were drafted or enlisted to serve in the U.S. armed forces. Despite the harsh conditions, many internees found the will to make beautiful objects—chairs, dolls, tools—from scrap and indigenous materials. The word *gaman* means to bear the seemingly unbearable with dignity and patience. These works help us understand art's healing power as they remind us of tragically misguided actions by our government in the heat of war.

Another inspiring exhibition at American Art is "Christo and Jeanne-Claude: Remembering the Running Fence," on view through the 26th of this month. Thirty-four years ago, in September 1976, I saw the *Running Fence*, an artwork that had taken years to plan and months to construct. Billowing white 18-foot-high nylon fabric panels, hung from cables mounted on steel poles, stretched across Northern California for more than 24.5 miles and then disappeared into the Pacific. At the time, I had no idea of the project's complexity: 240,000 square yards of nylon, 90 miles of steel cable, 2,050 steel poles, 350,000 hooks and 13,000 earth anchors—requiring dozens of permissions from landowners and local authorities.

Against all odds: Christo and Jeanne-Claude's *Running Fence*, from 1976.

Christo and Jeanne-Claude created a work of joy and beauty, and as they had planned, after two weeks they dismantled the fence. The exhibition brings it back with detailed drawings, a 58-foot-long scale model, hundreds of photographs and three documentary films. A magnificent book, *Christo and Jeanne-Claude: Remembering the Running Fence*, accompanies the show.

These two exhibitions (both partly viewable at americanart.si.edu) teach us that with enough vision and passion art can persevere against all odds.

G. WAYNE CLOUGH *is Secretary of the Smithsonian Institution.*

Get a behind-the-scenes look at "The Art of Gaman" at Smithsonian.com/gaman

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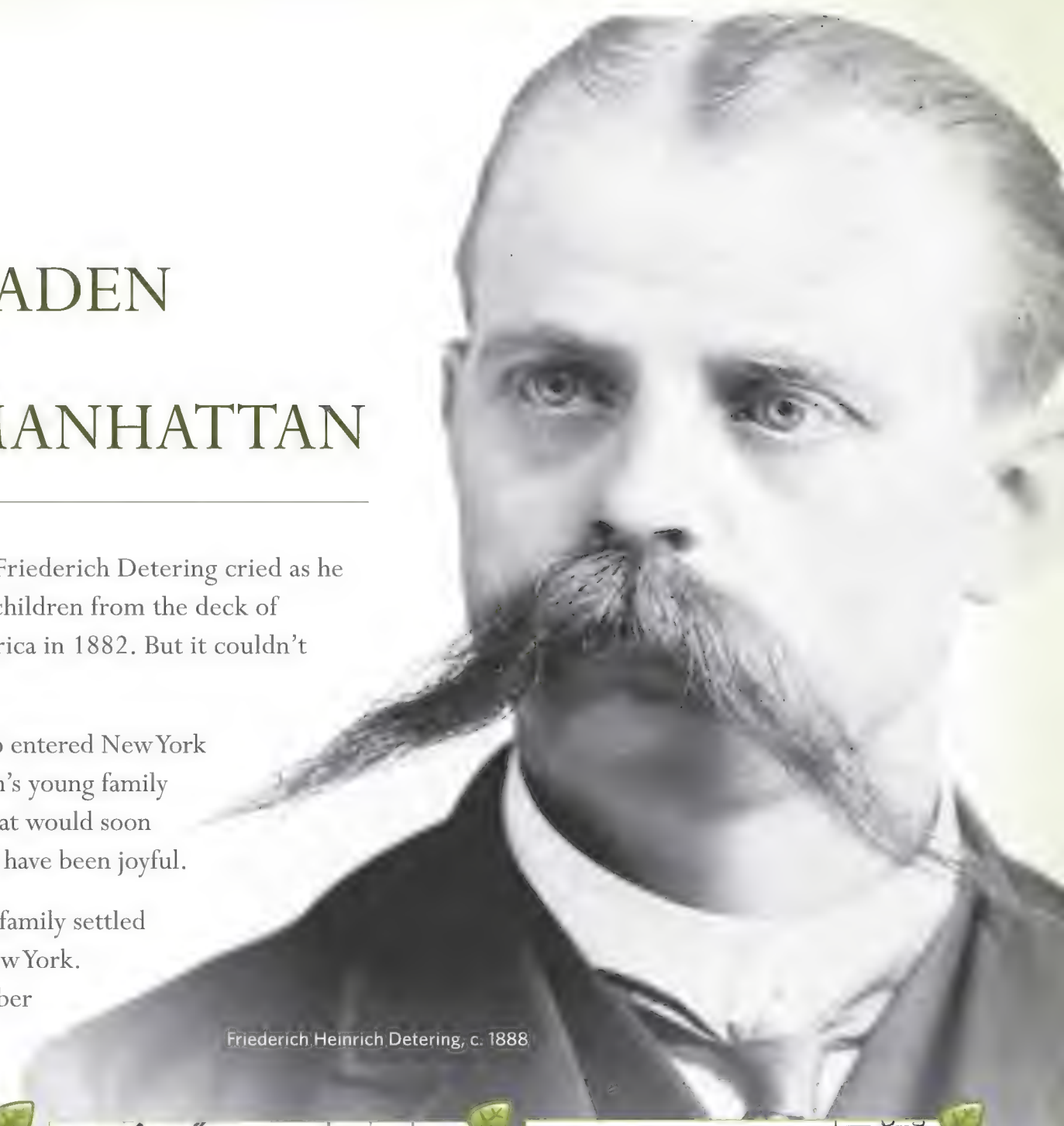
GENE YOUNG

HOW THE BARBER OF BADEN BECAME THE BARBER OF MANHATTAN

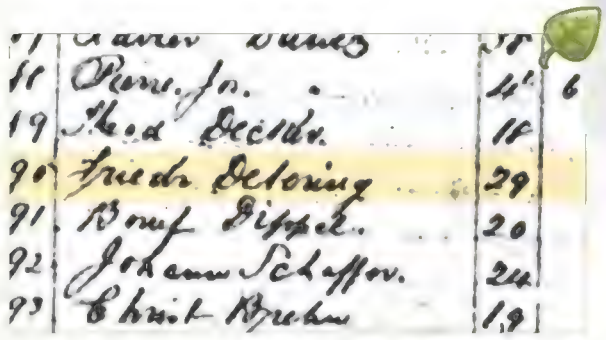
We may never know if 29-year-old Friederich Detering cried as he waved goodbye to his wife and three children from the deck of the Nederland as it departed for America in 1882. But it couldn't have been easy to leave them.

Yet less than a year later, that same ship entered New York Harbor again, this time with Friederich's young family aboard. Their reunion, near the spot that would soon be home to the Statue of Liberty, must have been joyful.

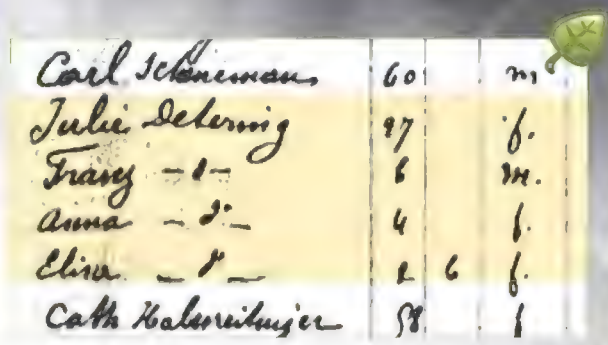
Within a few years, Friederich and his family settled in and made a life for themselves in New York. And on a summer day in 1888, the barber from Germany became an American.



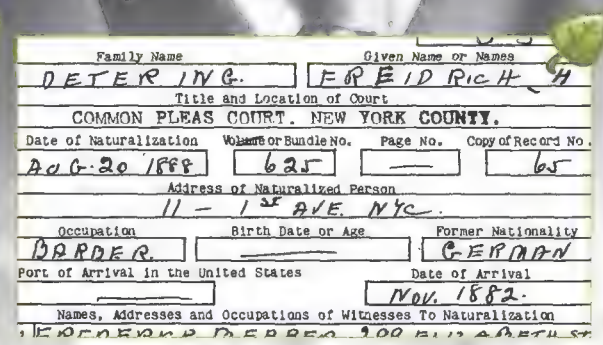
Friederich Heinrich Detering, c. 1888



The Nederland's passenger list, 1882



The Nederland's passenger list, 1883



Friederich's Petition for Naturalization

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Who will you discover?

The Ambassador of Jazz

Smithsonian music curator John Edward Hasse has set the standard for jazz education in this country—and around the globe

THE SULTRY SOUND OF A SAXOPHONE floats through a windowless room several floors beneath Washington, D.C.'s rush-hour traffic. John Edward Hasse adjusts his chair in front of a camera, tapping his toes as the big-band tune "Take the 'A' Train" plays on a CD.

It's 8:30 a.m. in the nation's capital, but it's 3:30 p.m. at the U.S. Embassy in Nairobi, Kenya, where a crowd has gathered to watch Hasse, via video conference, speak about the genre that revolutionized American music: jazz.

Today, his subject is Duke Ellington. "A genius beyond category," Hasse tells his audience more than 7,500 miles away. "There were a lot of great musicians—composers, arrangers, bandleaders and soloists. But the best at all of those things? That was Duke."

Hasse doesn't just teach jazz; he embodies the things French artist Henri Matisse said he loved about it: "the talent for improvisation, the liveliness, the being at one with the audience." As a producer, musician and lecturer, Hasse has toured 20 nations across six continents. He founded Jazz Appreciation Month, now celebrated in 40 countries and all 50 states, and his work as a music curator at the National Museum of American History and as an author has set the standard for jazz education across the country. Hasse recently teamed with an international panel of experts for the upcoming release of *Jazz: The Smithsonian Anthology*, a six-CD, 111-track set that reconceives, updates and expands the 1973 *Smithsonian Collection of Classic Jazz*.

Jazz is "such a vital part of American identity," says Hasse (above: via satellite in Mauritius). He recently helped update the 1973 anthology the *Smithsonian Collection of Classic Jazz* (below).

Jazz faces increasing competition from other music genres in the United States, yet it continues to find new audiences abroad. Many nations have developed their own jazz style — a fact Hasse says influenced the Smithsonian anthology—but enthusiasts abroad have few opportunities to learn about the genre's American roots. While classical music began in Europe and Russia, and the folk tradition has long thrived in cultures around the globe, jazz is one of several musical styles conceived in this country.

So for the past decade, in cooperation with the State Department, Hasse has been America's unofficial jazz ambassador-at-large. "Jazz implicitly communicates some of the most cherished core values of our society and culture: freedom, individuality, cultural diversity, creative collaboration, innovation, democracy," he says. "It's an art form that is such a vital part of American identity."

Hasse often delivers his lectures via satellite. But he loves to teach and perform in person. In 2008, he traveled to Egypt accompanied by the Smithsonian Jazz Masterworks Orchestra, a group he founded in 1990 to keep the importance of the music alive. When Hasse went to South Africa in 2006, a group of young boys, many of them orphans, traveled an hour and a half from their village of tin-roofed shacks to hear him speak. And when Hasse began to play a recording of Louis Armstrong's "Hello, Dolly!" three of the boys sang along.

"I was just floored. They knew the words, every single one," Hasse says. "When you can take someone like Armstrong, who was born more than 100 years ago in a country halfway around the world—and his music is able to leap with ease over geography, nationality, culture, demographics, everything else, and communicate and inspire young people—that itself is inspiring to me."

Hasse plans to travel next spring to Moscow, where he hopes the response mirrors the one he received in Nairobi this past April. There teachers clamored for copies of his audio and video clips to share with students.

"One young man in Nairobi told me after hearing Armstrong, 'You've changed my life forever,'" Hasse says. "Some of the world had never heard trumpet playing or singing like his before. There's a hunger for things from America that are true, uplifting, positive, beautiful and inspiring. Jazz is that—the best of American culture." **ERICA R. HENDRY**

NEDDY CHAN-PIN / U.S. STATE DEPARTMENT; SMITHSONIAN FOLKWAYS

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Amazing Grace

Harriet Tubman's hymnal evokes a life devoted to liberation

BY OWEN EDWARDS

AN 8- BY 5-INCH 19TH-CENTURY HYMNAL, bound in faded paperboard and cloth, bears its owner's name handwritten on the inside cover. The well-worn book of hymns belonged to one of American history's most legendary heroines: Harriet Tubman.

Historian Charles Blockson recently donated the hymnal—along with other Tubman memorabilia—to the Smithsonian National Museum of African American History and Culture. It represents, says NMAAHC director Lonnie Bunch, an opportunity "to renew our awareness of Harriet Tubman as a human—to make her less of a myth and more of a girl and a woman with astonishing determination."

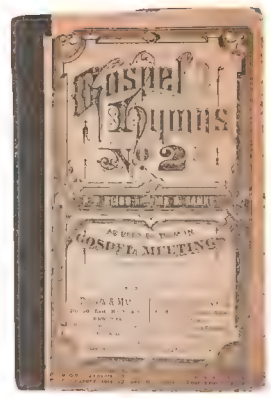
Historians continue to investigate the inscription on the inside cover—"Harriet Tubman Davis Book." (Tubman married Nelson Davis, a Civil War veteran, in 1869.) Denied education as a slave, Tubman, according to historical evidence, never learned to read or write. "We have more study to do," says Bunch.

Born in 1822 in Maryland, Tubman suffered a serious head injury as a girl, when an overseer hurled a scale counterweight at another slave, hitting Tubman. The injury caused lifelong seizures and hallucinations that the young woman would interpret as religious visions.

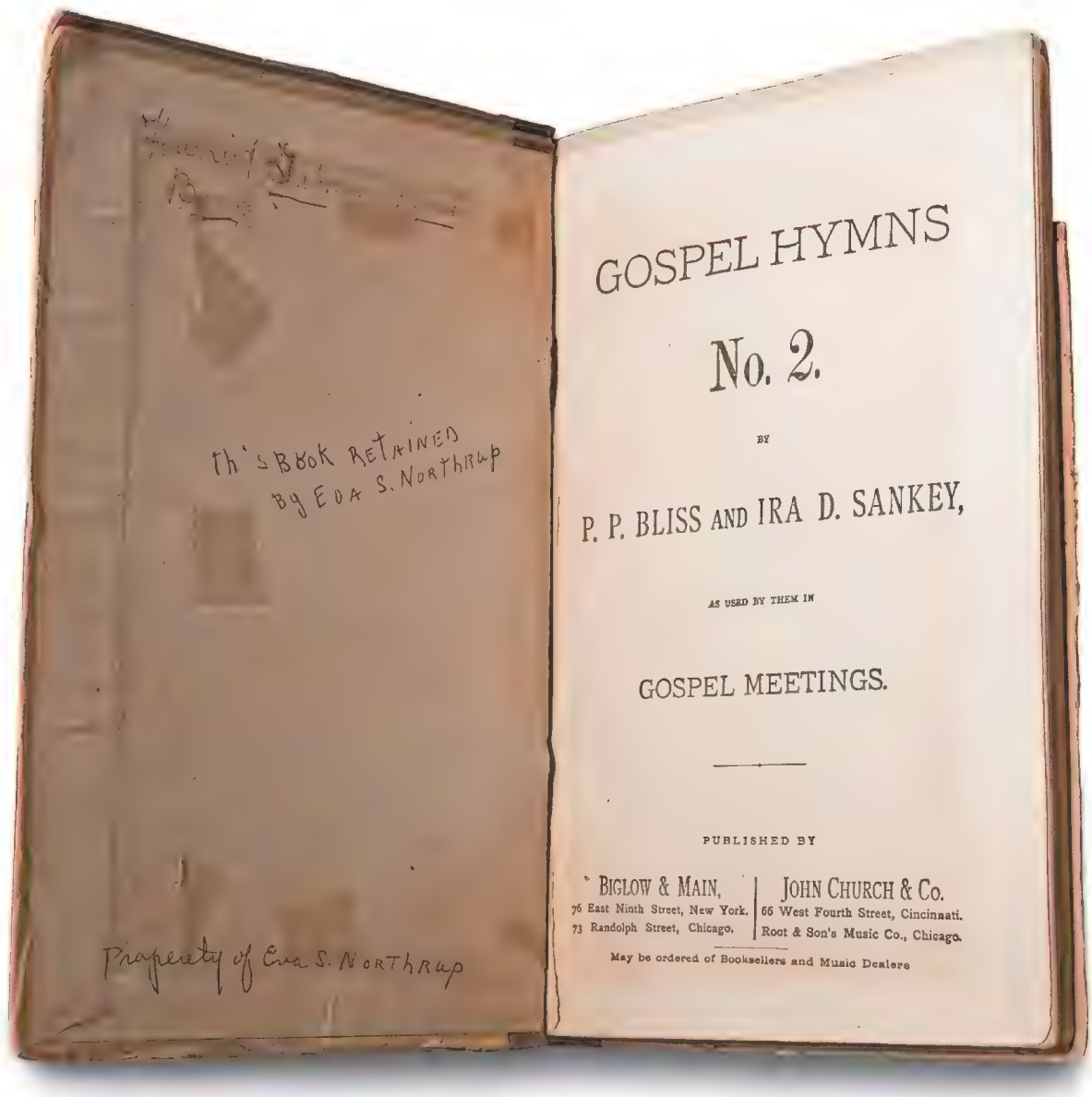
In 1849, she fled Maryland to Philadelphia. Soon after, Tubman began her exploits—acts of bravery that would make her a legend. She returned secretly to Maryland to begin escorting other slaves to freedom. She often traveled at night to avoid capture by reward-seeking trackers. During the course of 13 such missions, she led nearly 70 slaves out of bondage. Even after the Fugitive Slave Act of 1850 required free states to return runaway slaves, Tubman continued to guide her charges along the Underground Railroad north to Canada, earning the nom de guerre "Moses." She would later recall with pride that she "never lost a passenger."

"She believed in freedom when she shouldn't have had a chance to believe in freedom," says Bunch. Just as important, he adds, was that her increasingly famous acts of daring "belied the Southern contention that slaves actually liked their lives."

During the Civil War, Tubman served with the Union Army as a



The hymnal summons up a woman of "astonishing determination," says NMAAHC director Lonnie Bunch.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[1] U.S. Geological Survey, [2] *FORTUNE*, March 2010, [3] *Ethisphere™ Magazine*, April 2010

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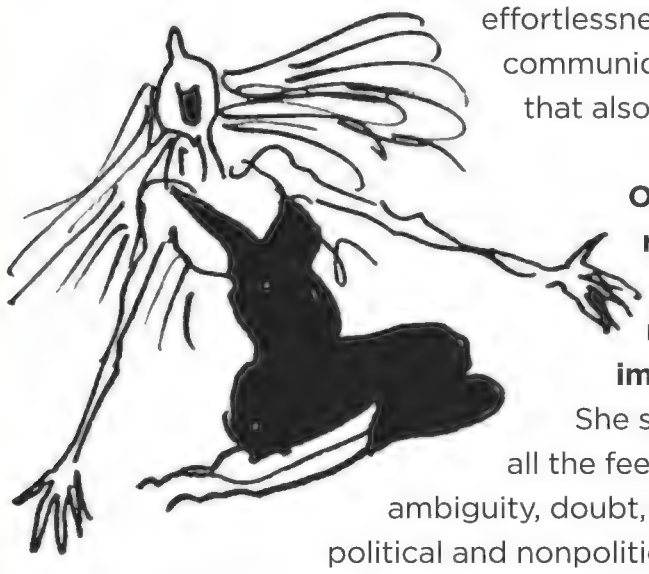
Q&A

JULES FEIFFER has prodded and entertained Americans with his sharp wit for over 50 years by way of cartoons, illustrations, plays and books—including his 2010 memoir, *Backing Into Forward*. Recently, he spoke at the Reynolds Center for American Art and Portraiture about photographer Bob Landry's blithesome portrait of dancer Fred Astaire. Feiffer was interviewed by the magazine's Jesse Rhodes.

In your memoir you refer to Astaire as your guru. How did that reverence for him come about?

I was a child of the Great Depression, and the only source of cheer for many of us in those times was popular entertainment. Among my most happy memories was when my parents would take the family to the local movie theater to see Fred and Ginger [Rogers]. The ease and effortlessness—or apparent effortlessness—of Astaire's dancing communicated a high-spiritedness that also conveyed hope.



Above: Feiffer's "modern dancer."

One of the most famous recurring characters in your cartoons has been a moody modern dancer. Why does that image appeal to you?

She seems to be the embodiment of all the feelings that I put into my work: ambiguity, doubt, self-doubt, self-reproach, political and nonpolitical. And it was a lot more fun drawing her than my other characters because she moved all the time, leaping and arabesquing.

In your memoir, you say "Success is nothing to sneeze at, but failure, too, offers great possibilities." How so?

We have all sorts of negative notions about failure—and so the hidden message is don't risk anything. Don't take chances. Be a good boy. Stay within the limits. But failure is implicit in the arts and in virtually any endeavor that leads to a satisfactory life. You try things, you fall on your face, you figure out what went wrong, you go back and try them again.

What is your latest project?

I've been working on a children's book, *The Odious Ogre*, which is coming out this month. It's my first collaboration with Norton Juster since we did *The Phantom Tollbooth* together 50 years ago.

Read more of our interview with Jules Feiffer at Smithsonian.com/feiffer

rifle-toting scout and spy. In June 1863, she helped lead a gunboat raid on plantations along the Combahee River near Beaufort, South Carolina, an action that freed more than 700 slaves. As Union gunboats took on those who fled, Tubman calmed fears with a familiar abolitionist anthem:

Of all the whole creation in the east
or in the west
The glorious Yankee nation is the
greatest and the best
Come along! Come along!
don't be alarmed.

In her long, eventful life, Tubman worked with abolitionist Frederick Douglass; anti-slavery firebrand John Brown (who called her "General Tubman"); and women's rights pioneer Susan B. Anthony. In 1897, Queen Victoria recognized her achievements with the gift of a lace-and-silk shawl. (The garment is among 39 items in the Blockson donation.) Tubman died in 1913 at age 91, in Auburn, New York, where she had founded a nursing home for former slaves after the war.

Blockson, who lives outside Philadelphia, has since boyhood amassed material relating, he says, to "anyone of African descent." Today, he is curator emeritus of his collection—numbering some 500,000 pieces—at Temple University.

He acquired the hymnal, the Victoria shawl, several rare photographs and other items as a bequest from Meriline Wilkins, Tubman's great-great-niece who died at age 92 in 2008. The hymnal had belonged to Tubman's great-niece, Eva S. Northrup. "[Meriline] said to me once, 'I'm going to give you something one of these days,'" Blockson recalls. "But when the hymnal turned out to be one of the things she left to me, it was awesome to receive it. And it had to go to Washington, where it may attract other Tubman items."

The gospel song "Swing Low, Sweet Chariot," which is in the hymnal, was among Tubman's favorites. Says Blockson: "They sang it at her funeral."

OWEN EDWARDS *is a freelance writer and author of the book* Elegant Solutions.

SUZANNE DECHILLO / THE NEW YORK TIMES / REDUX; JULES FEIFFER, *A DANCE TO SPRING*, 2000 (DETAIL) / JEAN ALBANO GALLERY

What's Up

UPWARDLY MOBILE

Artifacts belonging to early pilots (above: Amelia Earhart's Lockheed 5B Vega) and the latest aviation technology come together for the permanent reopening of "Pioneers of Flight" at the National Air and Space Museum on November 19.

SKIN DEEP

On September 4, artists explore issues of identity and perseverance (below: *Tom,* 2006) in the final installation of "Hide: Skin as Material and Metaphor" at the American Indian Museum in New York City.

BACK TO NATURE

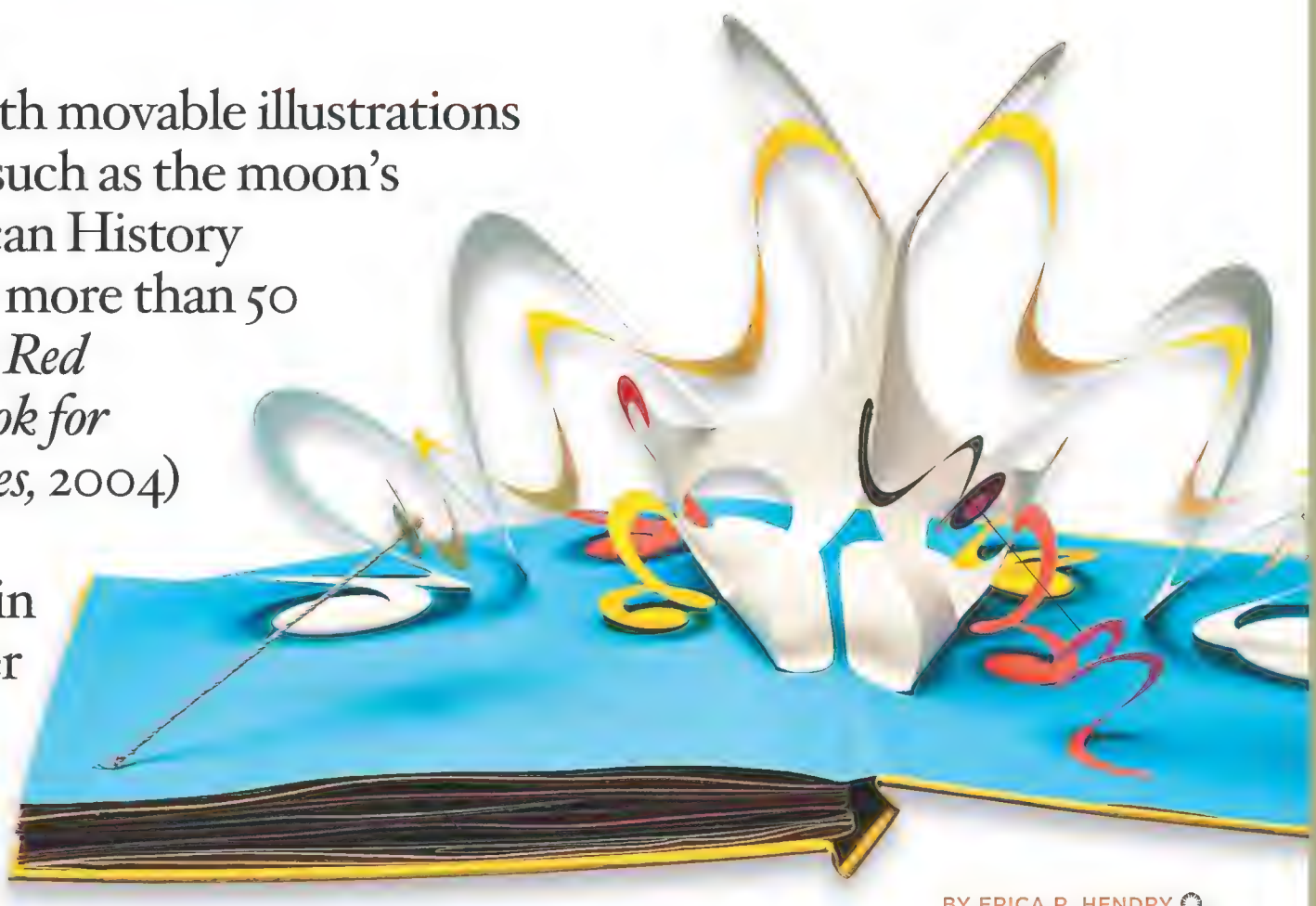
Opened in 1910, Natural History now houses 126 million specimens and cultural artifacts (above: a blue whale model, 1962). Visit the exhibit "Celebrating 100 Years," through March 20, 2011.

GENERATIONS OF ART

Trace the development of Chinese painting through 1,000 years of artwork spanning five imperial dynasties (below: *Horse and Groom, after Li Gonglin,* Yuan dynasty, 1347) at the Freer Gallery of Art through November 28.

PAGE TURNERS

In 1570, books with movable illustrations taught concepts such as the moon's cycles. At American History through fall 2011, more than 50 works (right: *One Red Dot: A Pop-Up Book for Children of All Ages,* 2004) explore the art form's evolution in the exhibit "Paper Engineering: Fold, Pull, Pop and Turn."



BY ERICA R. HENDRY

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Get an insider's look at the Smithsonian at Smithsonian.com/mallblog

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"We had 12,000 to 15,000 paintings here," says Georges Nader Jr., with a Paul Tanis work at the remains of his family's house and museum near Port-au-Prince.

THE ART OF RESILIENCE

Within weeks of January's devastating earthquake, Haiti's surviving painters and sculptors were taking solace from their work

BY BILL BRUBAKER **PHOTOGRAPHS BY ALISON WRIGHT**

SIX WEEKS HAD PASSED SINCE A MAGNITUDE 7.0 EARTHQUAKE struck Haiti, killing 230,000 people and leaving more than 1.5 million others homeless. But the ground was still shaking in the nation's rubble-strewn capital, Port-au-Prince, and 87-year-old Préfète Duffaut wasn't taking any chances. One of the most prominent Haitian artists of the past 50 years was sleeping in a crude tent made of plastic sheeting and salvaged wood, fearful his earthquake-damaged house would collapse at any moment.

"Did you feel the tremors last night?" Duffaut asked.

Yes, I had felt the ground shake in my hotel room around 4:30 that morning. It was the second straight night of tremors, and I was feeling a bit stressed. But standing next to Duffaut, whose fantastical naive paintings I have admired for three decades, I resolved to put my anxieties on hold.

It was Duffaut, after all, who had lived through one of the most horrific natural disasters of modern times. Not only was he homeless in the poorest nation of the Western Hemisphere, his niece and nephew had died in the earthquake. Gone, too, were his next-door neighbors in Port-au-Prince. "Their house just completely collapsed," Duffaut said. "Nine people were inside."

The diabolical 15- to 20-second earthquake on January 12 also stole a sizable chunk of Duffaut's—and Haiti's—artistic legacy. At least three artists, two gallery owners and an arts foundation director died. Thousands of paintings and sculptures—valued in the tens of millions of dollars—were destroyed or badly damaged in museums, galleries, collectors' homes, government ministries and the National Palace. The celebrated biblical murals that Duffaut and other Haitian artists painted at Holy Trinity Cathedral in the early 1950s were now mostly rubble. The Haitian Art Museum at College St. Pierre, run by the Episcopal Church, was badly cracked. And the beloved Centre d'Art, the 66-year-old gallery and school that jump-started Haiti's primitive art movement—making collectors out of Jacqueline Kennedy Onassis, Bill and Hillary Clinton, the filmmaker Jonathan Demme and thousands of others—had crumbled. "The Centre d'Art is where I sold my first piece of art in the 1940s," Duffaut said quietly, tugging on the white beard he had grown since the earthquake.

Duffaut disappeared from his tent and returned a few moments later with a painting that displayed one of his trademark imaginary villages, a rural landscape dominated by winding, gravity-defying mountain roads filled with tiny people, houses and churches. Then he retrieved another painting. And another. Suddenly, I was surrounded by six Duffauts—and all were for sale.

Standing beside his tent, which was covered by a tarpaulin stamped USAID, Duffaut flashed a satisfied grin.

"How much?" I asked.

"Four thousand dollars [each]," he said, suggesting the price local galleries would charge.

Not having more than $50 in my pocket, I had to pass. But I was delighted that Préfète Duffaut was open for business. "My future paintings will be inspired by this terrible tragedy," he told me. "What I have seen on the streets has given me a lot of ideas and added a lot to my imagination." There was an unmistakable look of hope in the old master's eyes.

"DEYE MON, GEN MON," a Haitian proverb, is Creole for "beyond the mountains, more mountains."

Impossibly poor, surviving on less than $2 a day, most Haitians have made it their life's work to climb over, under and around obstacles, be they killer hurricanes, food riots, endemic diseases, corrupt governments or the ghastly violence that appears whenever there is political upheaval. One victim of these all too frequent calamities has been Haitian culture: even before the earthquake, this French- and Creole-speaking

Nacius Joseph (below left: with his carving of voodoo queen La Sirene) says there are days since the earthquake when he has had nothing to eat. Marléne Roy Etienne holds a painting by her brother, Alix Roy, who died in the disaster.

LEFT: BILL BRUBAKER

"My future paintings will be inspired by this tragedy," says Préfète Duffaut, one of the most prominent Haitian artists of the past 50 years (with Alta Grace Luxana and their daughter, in the tent the couple lived in after the earthquake).

Caribbean island nation of nearly ten million people did not have a publicly owned art museum or even a single movie theater.

Still, Haitian artists have proved astonishingly resilient, continuing to create, sell and survive through crisis after crisis. "The artists here have a different temperament," Georges Nader Jr. told me in his fortress-like gallery in Pétionville, the once-affluent, hillside Port-au-Prince suburb. "When something bad happens, their imagination just seems to get better." Nader's family has been selling Haitian art since the 1960s.

The notion of making a living by creating and selling art first came to Haiti in the 1940s, when an American watercolorist named DeWitt Peters moved to Port-au-Prince. Peters, a conscientious objector to the world war then underway, took a job teaching English and was struck by the raw artistic expression he found at every turn—even on the local buses known as tap-taps.

He founded Centre d'Art in 1944 to organize and promote untrained artists, and within a few years, word had gone out that something special was happening in Haiti. During a visit to the center in 1945, André Breton, the French writer, poet and a leader of the cultural movement known as Surrealism, swooned over the work of a self-described *houngan* (voodoo priest) and womanizer named Hector Hyppolite, who often painted with chicken feathers. Hyppolite's creations, on subjects ranging from still lifes to voodoo spirits to scantily clad women (presumed to be his mistresses), sold for a few dollars each. But, Breton wrote, "all carried the stamp of total authenticity." Hyppolite died of a heart attack in 1948, three years after joining Centre d'Art and one year after his work was displayed at a triumphant (for Haiti as well as for him) United Nations-sponsored exhibition in Paris.

In the years that followed, the Haitian art market relied largely on the tourists who ventured to this Maryland-size nation, 700 or so miles from Miami, to savor its heady mélange of naive art, Creole food, smooth dark rum, hypnotic (though, at times, staged) voodoo ceremonies, high-energy carnivals and riotously colored bougainvillea. (Is it any wonder Haitian artists never lacked for inspiration?)

Though tourists largely shied away from Haiti in the 1960s, when self-declared president-for-life François "Papa Doc" Duvalier ruled through terror enforced by his personal army of Tonton Macoutes, they returned after his death in 1971, when his playboy son, Jean-Claude (known as "Baby Doc"), took charge.

I got my first glimpse of Haitian art when I interviewed Baby Doc in 1977. (His reign as president-for-life ended abruptly when he fled the country in 1986 for France, where he lives today at age 59 in Paris.) I was hooked the moment I bought my first painting, a $10 market scene done on a flour sack. And I was delighted that every painting, iron

sculpture and sequined voodoo flag I carried home on subsequent trips gave me further insight into a culture that is a blend of West African, European, native Taíno and other homegrown influences.

Although some nicely done Haitian paintings could be bought for a few hundred dollars, the best works by early masters such as Hyppolite and Philomé Obin (a devout Protestant who painted scenes from Haitian history, the Bible and his family's life) eventually commanded tens of thousands of dollars. The Museum of Modern Art in New York City and the Hirshhorn in Washington, D.C. added Haitian primitives to their collections. And Haiti's reputation as a tourist destination was reinforced by the eclectic parade of notables—from Barry Goldwater to Mick Jagger—who checked into the Hotel Oloffson, the creaky gingerbread retreat that is the model for the hotel in *The Comedians*, Graham Greene's 1966 novel about Haiti.

Much of this exuberance faded in the early 1980s amid political strife and the dawn of the AIDS pandemic. U.S. officials classified Haitians as being among the four groups at highest risk for HIV infection. (The others were homosexuals, hemophiliacs and heroin addicts.) Some Haitian doctors called this designation unwarranted, even racist, but the perception stuck that a Haitian holiday was not worth the risk.

Though tourism waned, the galleries that sponsored Haitian painters and sculptors targeted sales to overseas collec-

tors and the increasing numbers of journalists, development workers, special envoys, physicians, U.N. peacekeepers and others who found themselves in the country.

"Haitians are not a brooding people," said gallery owner Toni Monnin, a Texan who moved to Haiti in the boomtime '70s and married a local art dealer. "Their attitude is: 'Let's get on with it! Tomorrow is another day.'"

AT THE GINGERBREAD GALLERY in Pétionville, I was introduced to a 70-year-old sculptor who wore an expression of utter despondence. "I have no home. I have no income. And there are days when me and my family don't eat," Nacius Joseph told me. Looking for financial support, or at least a few words of encouragement, he was visiting the galleries that had bought and sold his work over the years.

Joseph told gallery owner Axelle Liautaud that his days as a woodcarver, creating figures such as La Sirene, the voodoo queen of the ocean, were over. "All my tools are broken," he said. "I can't work. All of my apprentices, the people who helped me, have left Port-au-Prince, gone to the provinces. I'm very discouraged. I have lost everything!"

"But don't you love what you're doing?" Liautaud asked.

Joseph nodded.

"Then you have to find a way to do it. This is a situation where you have to have some drive because everyone has problems."

Joseph nodded again, but looked to be near tears.

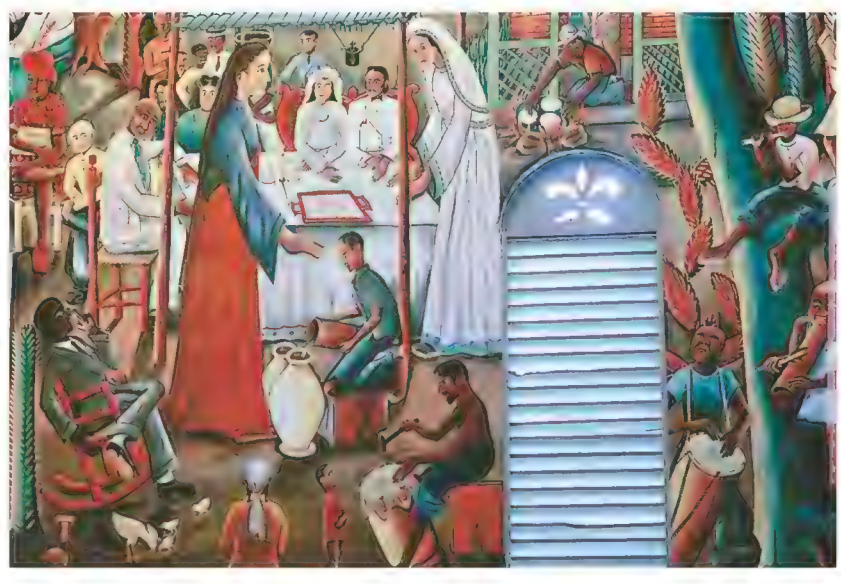
Though the gallery owners were themselves hurting, many were handing out money and art supplies to keep the artists employed.

At her gallery a few blocks away, Monnin told me that in the days following the quake she distributed $14,000 to more than 40 artists. "Right after the earthquake, they simply needed money to buy food," she said. "You know, 90 percent of the artists I work with lost their homes."

Jean-Emmanuel "Mannu" El Saieh, whose late father, Issa, was one of the earliest promoters of Haitian art, was paying a young painter's medical bills. "I just talked to him on the phone, and you don't have to be a doctor to know he's still suffering from shock," El Saieh said at his gallery, just up a rutted road from the Oloffson hotel, which survived the quake.

Though most of the artists I encountered had become homeless, they did not consider themselves luckless. They were alive, after all, and aware that the *tremblement de terre* had killed many of their friends and colleagues, such as the octogenarian owners of the Rainbow Gallery, Carmel and Cavour Delatour; Raoul Mathieu, a painter; Destimare Pierre Marie Isnel (a.k.a. Louco), a sculptor who worked with discarded objects in the downtown Grand Rue

Of the 14 murals at Holy Trinity Cathedral, only three survived, including *The Baptism of Our Lord,* by Castera Bazile, and *The Last Supper,* by Philomé Obin. Wilson Bigaud's celebrated *Marriage at Cana* (below) was destroyed.



RIGHT: WILSON BIGAUD / SUPERSTOCK

Soon after the temblor, "street art" filled Place Saint-Pierre (Wilfred Destine with an earthquake-themed painting). A gallery owner cautions that many works in Haiti's open-air markets are mass-produced for visitors.

slum; and Flores "Flo" McGarrell, an American artist and film director who in 2008 moved to Jacmel (a town with splendid French colonial architecture, some of which survived the quake) to head up a foundation that supported local artists.

The day I arrived in Port-au-Prince, I heard rumors of another possible casualty—Alix Roy, a reclusive, 79-year-old painter who had been missing since January 12. I knew Roy's work well: he painted humorous scenes from Haitian life, often chubby kids dressed up as adults in elaborate costumes, some wearing oversize sunglasses, others balancing outrageously large fruits on their heads. Although he was a loner, Roy was an adventurous sort who had also lived in New York, Puerto Rico and the Dominican Republic.

A few nights later, Nader called my room at Le Plaza (one of the few hotels in the capital open for business) with some grim news. Not only had Roy died in the rubble of the gritty downtown hotel where he lived, his remains were still buried there, six weeks later. "I'm trying to find someone from the government to pick him up," Nader said. "That's the least the Haitian government can do for one of its best artists."

The next day, Nader introduced me to Roy's sister, a retired kindergarten director in Pétionville. Marléne Roy Etienne, 76, told me her older brother had rented a room on the top floor of the hotel so he could look down on the street for inspiration.

"I went to look for him after the earthquake but couldn't even find where the hotel had been because the entire street—Rue des Césars—was rubble," she said. "So I stood in front of the rubble where I thought Alix might be and said a prayer."

Etienne's eyes teared when Nader assured her he would continue pressing government officials to retrieve her brother's remains.

"This is hard," she said, reaching for a handkerchief. "This is really hard."

NADER HAD BEEN THROUGH some challenging times himself. Although he had not lost any family members, and his gallery in Pétionville was intact, the 32-room house where his parents lived, and where his father, Georges S. Nader, had built a gallery that contained perhaps the largest collection of Haitian art anywhere, had crumbled.

The son of Lebanese immigrants, the elder Nader was long considered one of Haiti's best-known and most successful art dealers, having established relationships with hundreds of artists since he opened a gallery downtown in 1966. He moved into the mansion in the hillside Croix-Desprez neighborhood a few years later and, in addition to the gallery, built a museum that showcased many of Haiti's finest artists, including Hyppolite, Obin, Rigaud Benoit and Castera Bazile. When he retired a few years ago, Nader turned over the gallery and museum to his son John.

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The elder Nader had been taking a nap with his wife when the quake struck at 4:53 p.m. "We were rescued within ten minutes because our bedroom did not collapse," he told me. What Nader saw when he was led outside was horrifying. His collection had become a hideous pile of debris with thousands of paintings and sculptures buried under giant blocks of concrete.

"My life's work is gone," Nader, 78, told me by telephone from his second home in Miami, where he has been living since the quake. Nader said he never bought insurance for his collection, which the family estimated to be worth more than $20 million.

With the rainy season approaching, Nader's sons hired a dozen men to pick, shovel and jackhammer their way through the debris, looking for anything that could be salvaged.

"We had 12,000 to 15,000 paintings here," Georges Nader Jr. told me as we stomped through the sprawling heap, which reminded me of a bombed-out village from a World War II documentary. "We've recovered about 3,000 paintings and about 1,800 of those are damaged. Some other paintings were taken by looters in the first days after the earthquake."

Back at his gallery in Pétionville, Nader showed me a Hyppolite still life he had recovered. I recognized it, having admired the painting in 2009 at a retrospective at the Organization of American States' Art Museum of the Americas in Washington. But the 20- by 20-inch painting was now broken into eight pieces. "This will be restored by a professional," Nader said. "We have begun restoring the most important paintings we have recovered."

I heard other echoes of cautious optimism as I visited cultural sites across Port-au-Prince. A subterranean, government-run historical museum that contained some important paintings and artifacts had survived. So did a private voodoo and Taíno museum in Mariani (near the quake's epicenter) and an ethnographic collection in Pétionville. People associated with the destroyed Holy Trinity Cathedral and Centre d'Art, as well as the Episcopal Church's structurally feeble Haitian Art Museum, assured me that these institutions will be rebuilt. But no one could say how or when.

The United Nations has announced that 59 countries and international organizations have pledged $9.9 billion as "the down payment Haiti needs for wholesale national renewal." But there's no word on how much of that money, if any, will ever reach the cultural sector.

"We deeply believe that Haitians living abroad can help us with the funds," said Henry Jolibois, an artist and architect who is a technical consultant to the Haitian prime

Below left: Smithsonian conservator Hugh Shockey (at right with Susan Blakney, a conservator, and Georges Nader Jr.) inspect damaged works. Below right: Haiti's Widson Cameau depicts another recovery effort.

MAGGIE STEBER; WIDSON CAMEAU / GALERIE MONNIN

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minister's office. "For the rest, we must convince other entities in the world to participate, such as the museums and private collectors who have huge Haitian naive painting collections."

At the Holy Trinity Cathedral 14 murals had long offered a distinctively Haitian take on biblical events. My favorite was the *Marriage at Cana* (p. 41) by Wilson Bigaud, a painter who excelled at glimpses into everyday Haitian life—cockfights, market vendors, baptismal parties, rara band parades. While some European artists portrayed the biblical event at which Christ turned water into wine as being rather formal, Bigaud's *Cana* was a decidedly casual affair with a pig, rooster and two Haitian drummers looking on. (Bigaud died this past March 22 at age 79.)

"That Marriage at Cana mural was very controversial," Haiti's Episcopal bishop, Jean Zaché Duracin, told me in his Pétionville office. "In the '40s and '50s many Episcopalians left the church in Haiti and became Methodists because they didn't want these murals at the cathedral. They said, 'Why? Why is there a pig in the painting?' They didn't understand there was a part of Haitian culture in these murals."

Duracin told me it took him three days to gather the emotional strength to visit Holy Trinity. "This is a great loss, not only for the Episcopal church but for art worldwide," he said.

Visiting the site myself one morning, I saw two murals that were more or less intact—*The Baptism of Our Lord* by Castera Bazile and Philomé Obin's *Last Supper*. (A third mural, *Native Street Procession*, by Duffaut, has survived, says former Smithsonian Institution conservator Stephanie Hornbeck, but others were destroyed.)

At the Haitian Art Museum, chunks of concrete had fallen on some of the 100 paintings on exhibit. I spotted one of Duffaut's oldest, largest and finest imaginary village paintings propped against a wall. A huge piece was missing from the bottom. A museum employee told me the piece had not been found. As I left, I reminded myself that al-

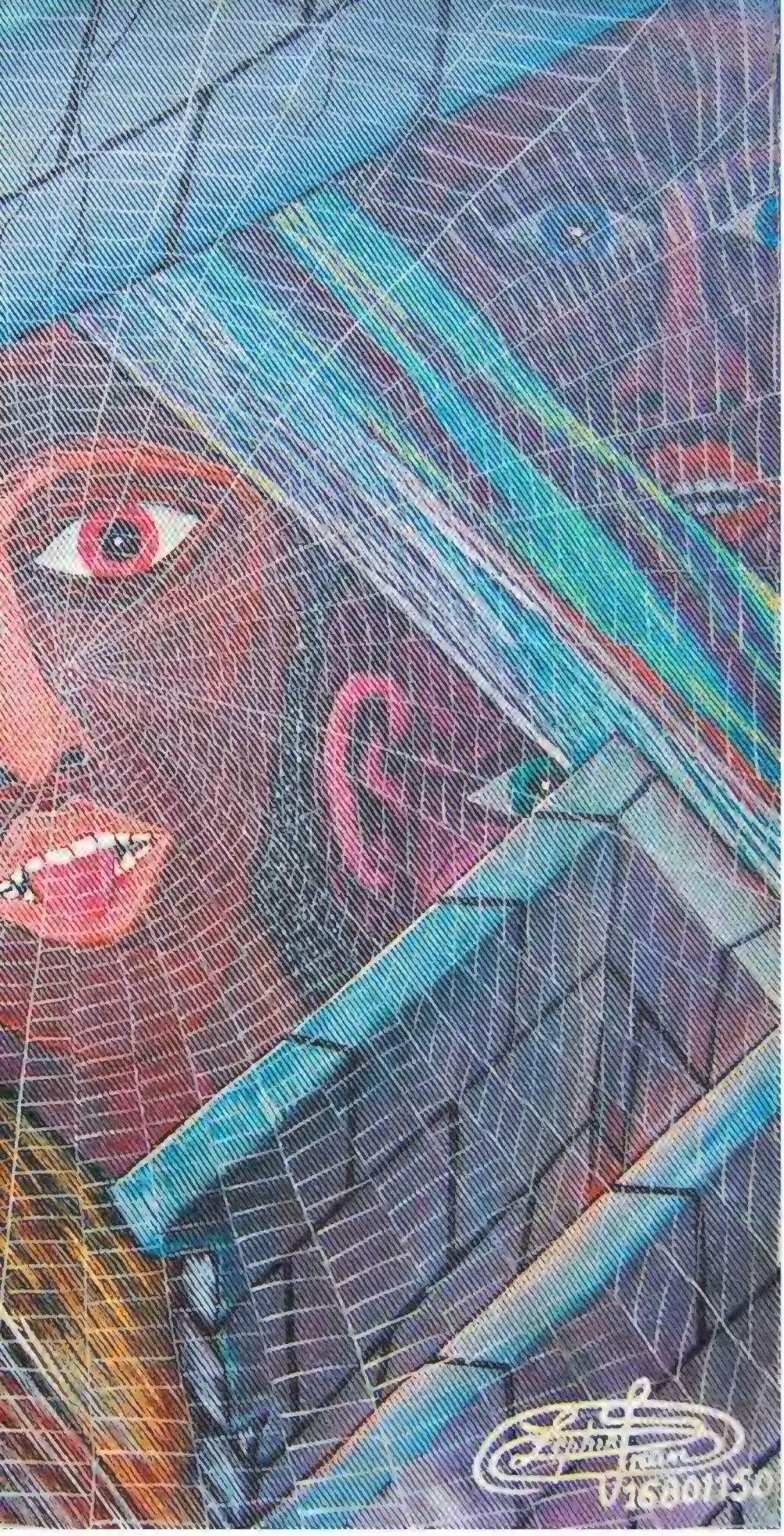
Part school, part gallery, the Centre d'Art (below) had nurtured artists for 66 years. It was the place, in 1945, where French author André Breton praised a painting's authenticity, putting Haiti on the art-collecting map.

though thousands of paintings had been destroyed in Haiti, thousands of others survived, and many are outside the country in private collections and institutions, including the Waterloo Center for the Arts in Iowa and the Milwaukee Art Museum, which have important collections of Haitian art. I also took comfort from conversations I had had with artists like Duffaut, who were already looking beyond the next mountain.

NO ONE DISPLAYS HAITI'S artistic resolve more than Frantz Zéphirin, a gregarious 41-year-old painter, houngan and father of 12, whose imagination is as large as his girth.

"I'm very lucky to be alive," Zéphirin told me late one afternoon in the Monnin gallery, where he was putting the fin-

PP. 46-47 FRANTZ ZÉPHIRIN / GALERIE MONNIN



CHANTAL AND RAINER NURNBERGER / INDIGO ARTS GALLERY

ishing touches on his tenth painting since the quake. "I was in a bar on the afternoon of the earthquake, having a beer. But I decided to leave the bar when people starting talking about politics. And I'm glad I left. The earthquake came just one minute later, and 40 people died inside that bar."

Zéphirin said he walked several hours, at times climbing over corpses, to get to his house. "That's where I learned that my stepmother and five of my cousins had died," he said. But his pregnant girlfriend was alive; so were his children.

"That night, I decided I had to paint," Zéphirin said. "So I took my candle and went to my studio on the beach. I saw a lot of death on the way. I stayed up drinking beer and painting all night. I wanted to paint something for the next generation, so they can know just what I had seen."

Zéphirin led me to the room in the gallery where his earthquake paintings were hung. One shows a rally by several fully clothed skeletons carrying a placard written in English: "We need shelters, clothes, condoms and more. Please help."

"I'll do more paintings like these," Zéphirin said. "Each day 20 ideas for paintings pass in my head, but I don't have enough hands to make all of them." (SMITHSONIAN commissioned the artist to create the painting that appears on the cover of this magazine. It depicts the devastated island nation with grave markers, bags of aid money and birds of mythic dimensions delivering flowers and gifts, such as "justice" and "health.") In March, Zéphirin accepted an invitation to show his work in Germany. And two months later, he would head to Philadelphia for a one-man show, titled "Art and Resilience," at the Indigo Arts Gallery.

A few miles up a mountain road from Pétionville, one of Haiti's most celebrated contemporary artists, Philippe Dodard, was preparing to bring more than a dozen earthquake-inspired paintings to Arte Américas, an annual fair in Miami Beach. Dodard showed me a rather chilling black-and-white acrylic that was inspired by the memory of a friend who perished in an office building. "I'm calling this painting *Trapped in the Dark*," he said.

I have no idea how Dodard, a debonair man from Haiti's elite class whose paintings and sculptures confirm his passion for his country's voodoo and Taíno cultures, had found time to paint. He told me he had lost several friends and family members in the quake, as well as the headquarters of the foundation he helped create in the mid-1990s to promote culture among Haitian youth. And he was busily involved in a project to convert a fleet of school buses—donated by the neighboring Dominican Republic—into mobile classrooms for displaced students.

One of the first paintings to reach a gallery after the quake was *Under the Rubble* (left), by Frantz Zéphirin (below): "I wanted to paint something for the next generation, so they can know just what I had seen."

Like Zéphirin, Dodard seemed determined to

Infusing recent works with a hopeful message about his countrymen's resilience, master Duffaut (at work on *The Star of Haiti* in his tent-studio in Port-au-Prince) says some new paintings will be even better than the old ones.

work through his grief with a paintbrush in hand. "How can I continue living after one of the biggest natural disasters in the history of the world? I can't," he wrote in the inscription that would appear next to his paintings at the Miami Beach show. "Instead I use art to express the deep change that I see around and inside me."

For the Haitian art community, more hopeful news was on the way. In May, the Smithsonian Institution launched an effort to help restore damaged Haitian treasures. Led by Richard Kurin, under secretary for history, art and culture, and working with private and other public organizations, the Institution established a "cultural recovery center" at the former headquarters of the U.N. Development Program near Port-au-Prince.

"It's not every day at the Smithsonian that you actually get to help *save* a culture," Kurin says. "And that's what we're doing in Haiti."

On June 12, after months of preparation, conservators slipped on their gloves in the Haitian capital and got to work. "Today was a very exciting day for . . . conservators, we got objects into the lab! Woo hoo!" the Smithsonian American Art Museum's Hugh Shockey enthused on the museum's Facebook page.

Kurin sounded equally pumped. "The first paintings we brought in were painted by Hector Hyppolite. So we were restoring those on Sunday," he told me a week later. "Then on Monday our conservator from the American Art Museum was restoring Taíno, pre-Colombian artifacts. Then on Tuesday the paper conservator was dealing with documents dating from the era of the Haitian struggle for independence. And then the next day we were literally on the scaffolding at the Episcopal cathedral, figuring out how we're going to preserve the three murals that survived."

The task undertaken by the Smithsonian and a long list of partners and supporters that includes the Haitian Ministry of Culture and Communication, the International Blue Shield, the Port-au-Prince-based foundation FOKAL and the American Institute for Conservation seemed daunting; thousands of objects need restoration.

Kurin said the coalition will train several dozen Haitian conservators to take over when the Smithsonian bows out in November 2011. "This will be a generation-long process in which Haitians do this themselves," he said, adding that he hopes donations from the international community will keep the project alive.

Across the United States, institutions such as the American Visionary Art Museum in Baltimore, galleries such as Indigo Arts in Philadelphia and Haitian-Americans such as Miami-based artist Edouard Duval Carrié were organizing sales and fund-raisers. And more Haitian artists were on the move—some to a three-month residency program sponsored by a gallery in Kingston, Jamaica, others to a biennial exhibition in Dakar, Senegal.

Préfète Duffaut stayed in Haiti. But during an afternoon we spent together he seemed energized and, though Holy Trinity was mostly a pile of rubble, he was making plans for a new mural. "And my mural in the new cathedral will be better than the old ones," he promised.

Meanwhile, Duffaut had just finished a painting of a star he saw while sitting outside his tent one night. "I'm calling this painting *The Star of Haiti*," he said. "You see, I want all of my paintings to send a message."

The painting showed one of Duffaut's imaginary villages inside a giant star that was hovering like a spaceship over the Haitian landscape. There were mountains in the painting. And people climbing. Before bidding the old master farewell, I asked him what message he wanted this painting to send.

"My message is simple," he said without a moment's hesitation. "Haiti will be back."

BILL BRUBAKER, *formerly a* Washington Post *writer, has long followed Haitian art. In her photographs and books,*
ALISON WRIGHT *focuses on cultures and humanitarian efforts.*

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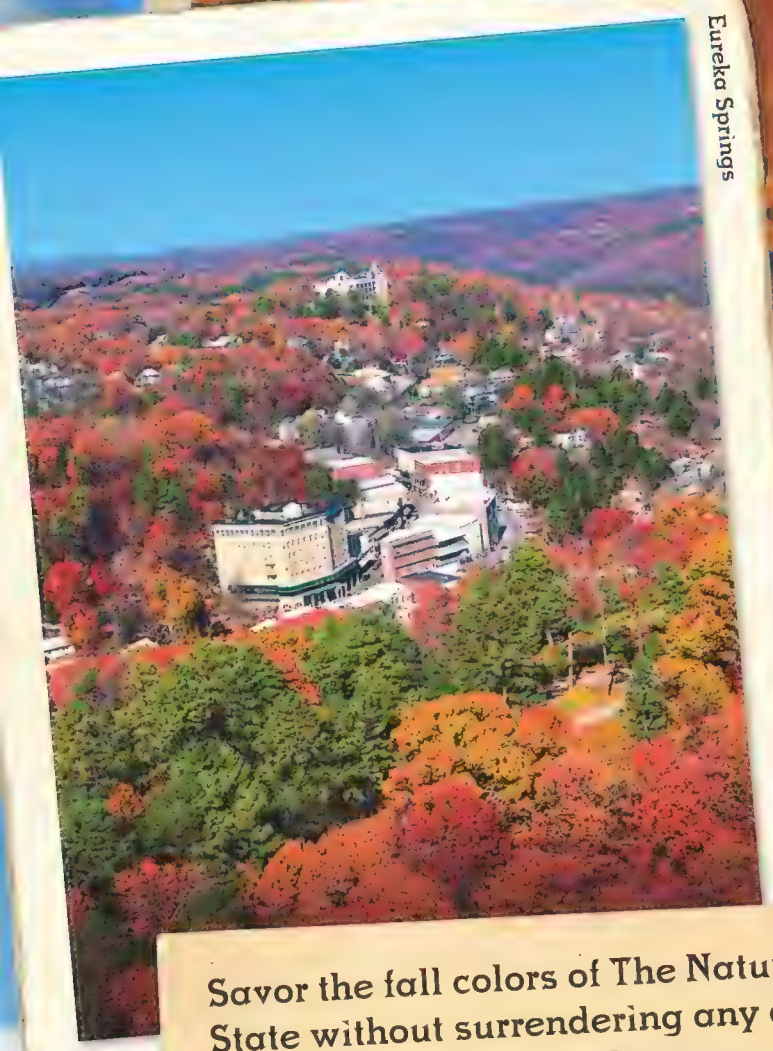

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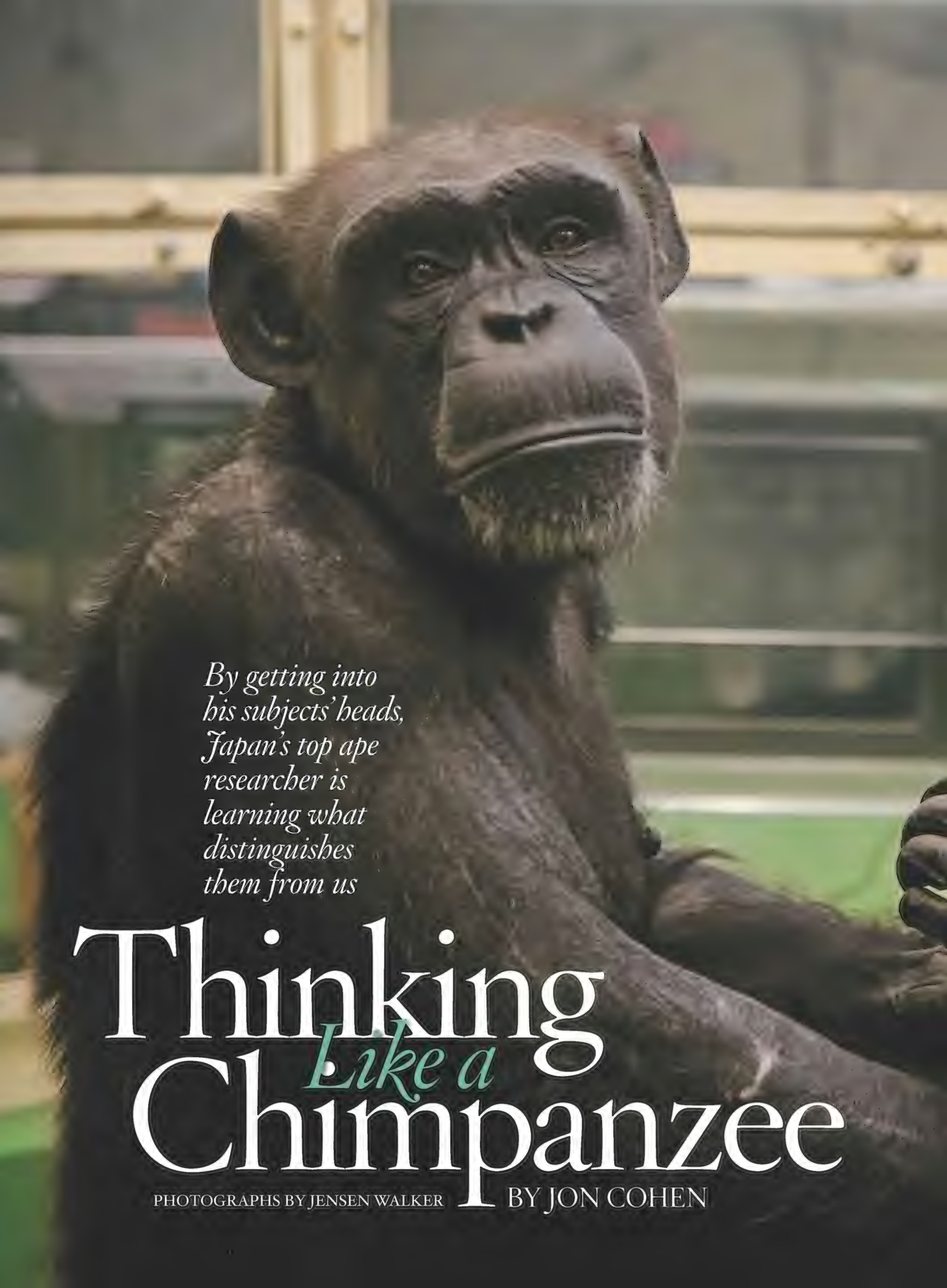


By getting into his subjects' heads, Japan's top ape researcher is learning what distinguishes them from us

Thinking *Like a* Chimpanzee

PHOTOGRAPHS BY JENSEN WALKER

BY JON COHEN

Since 1977, Tetsuro Matsuzawa has been studying a chimpanzee named Ai (at the Primate Research Institute). Her mind, he says, can help us understand our own.

The Primate Research Institute sits on a hill in Inuyama, Japan, a quiet city that rambles along the Kiso River and is renowned for a 16th-century castle. Handsome homes with traditional curved roofs line Inuyama's winding streets. The primate facility consists mostly of drab, institutional boxes from the 1960s, but it has one stunning architectural feature: an outdoor facility that includes a five-story-high climbing tower for the 14 chimpanzees currently in residence. Chimps frequently scamper to the top of the tower and take in the view; they tightrope across wires connecting different parts of the tower and chase each other in battle and play.

When I walked out onto a balcony overlooking the tower with Tetsuro Matsuzawa, the head of the institute, the chimpanzees spotted us immediately and began to chatter.

"Woo-ooo-woo-ooo-WOO-ooo-WOOOOOOO!" Matsuzawa sang out, voicing a chimp call known as a pant-hoot.

A half-dozen chimps yelled back.

"I am sort of a member of the community," he told me. "When I pant-hoot, they have to reply because Matsuzawa is coming."

Matsuzawa and the dozen scientists and graduate students who work with him are peering into the minds of our closest relatives, whose common ancestor with humans lived some six million years ago, to understand what separates them from us. He and his co-workers probe how chimpanzees remember, learn numbers, perceive and categorize objects and match voices with faces. It's a tricky business that requires intimate relationships with the animals as well as cleverly designed studies to test the range and limitations of the chimpanzees' cognition.

To move them from the outdoor structure to the laboratories inside, researchers lead the animals along a network of catwalks. As I ambled under the catwalks, the chimps going into various laboratories for the morning's experiments spit on me repeatedly—the standard greeting offered to unfamiliar humans.

The lab rooms are about the size of a studio apartment, with humans separated from chimpanzees by Plexiglas walls. Following Japanese tradition, I removed my shoes, put on slippers, and took a seat with Matsuzawa and his team of researchers. The human side of the room was crowded with computer monitors, TVs, video cameras, food dishes and machines that dispense treats to the chimps.

The chimp enclosures, which look like oversize soundproof booths from an old TV game show, were empty, but slots cut into the Plexiglas allowed the chimps to access touch-screen computers.

The 14 chimps at the Inuyama research center have an expansive view from their tower (above). The birth ten years ago of Ai's son Ayumu (above right) allowed Matsuzawa to study mother-infant communication. On some memory tests, juvenile chimps outperform not only adult chimps (right: Ai, foreground, and Ayumu in the lab) but people, too.

Matsuzawa's star research subject is a chimp named Ai, which means "love" in Japanese. Ai arrived at the institute, part of Kyoto University, in 1977, when she was 1 year old and Matsuzawa was 27. Matsuzawa had done some basic studies with rats and monkeys, but he knew little about chimpanzees. He was given the job of training her. Years later, he wrote an account of their first meeting: "When I looked into this chimpanzee's eyes, she looked back into mine. This amazed me—the monkeys I had known and worked with never looked into my eyes." Monkeys, separated from humans by more than 20 million years, differ from chimpanzees and other apes in many ways, including having tails and relatively limited mental capacities. "I had simply thought that chimpanzees would be big black monkeys," Matsuzawa wrote. "This, however, was no monkey. It was something mysterious."

Now, one of the researchers pushed a button, gates clanged and Ai entered the enclosure. Her son Ayumu (which means "walk") went into an enclosure next-door, which was connected to his mother's room by a partition that could be opened and closed. The institute makes a point of studying mothers and their children together, following the procedures under which researchers conduct developmental experiments with human children. Ai sauntered over to a computer screen.

The computer randomly splashed numbers 1 through 7 about the screen. When Ai touched the number one, white blocks covered the other numbers. She then had to touch the white blocks in the correct numerical sequence to receive a treat, a small chunk of apple. The odds of correctly guessing the sequence are 1 in 5,040. Ai made many mistakes with seven numbers, but she succeeded almost every time with six numbers, and the odds of that happening by chance are 1 in 720 tries.

Ayumu's success rate, like those of other chimps younger than about 10, is better that Ai's. It appears that young chimps, like human children, have better so-called eidetic memory—the ability to take a mental picture of even a complicated image—than their elders. And chimps outperform humans.

I once watched Matsuzawa show videos of his experiments with Ai and Ayumu at a conference attended by the world's leading chimp researchers, including Jane Goodall, Christophe

ALL PHOTOS: JENSEN WALKER / AURORA SELECT; MAP: GUILBERT GATES

Ai has learned the Japanese characters for various colors (above: she uses a touch-screen computer to match a colored square to its corresponding character). But does she truly understand the meaning of the word "pink"? Matsuzawa thinks she does.

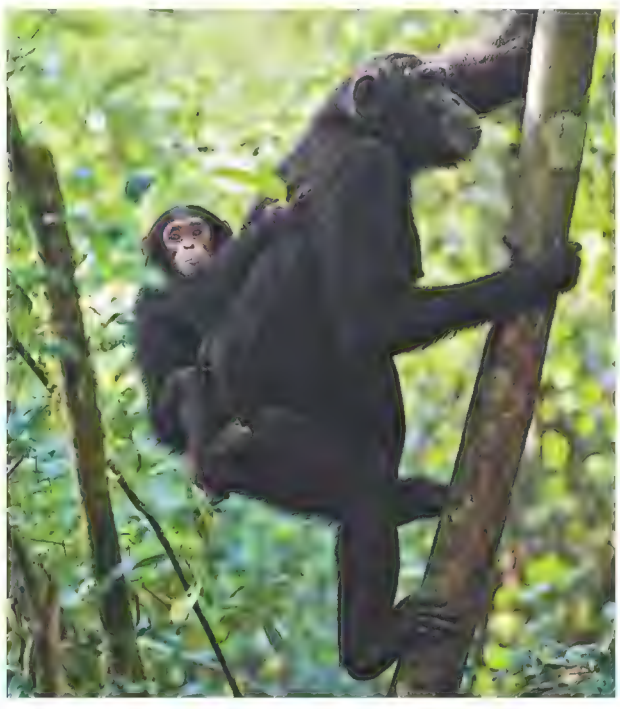
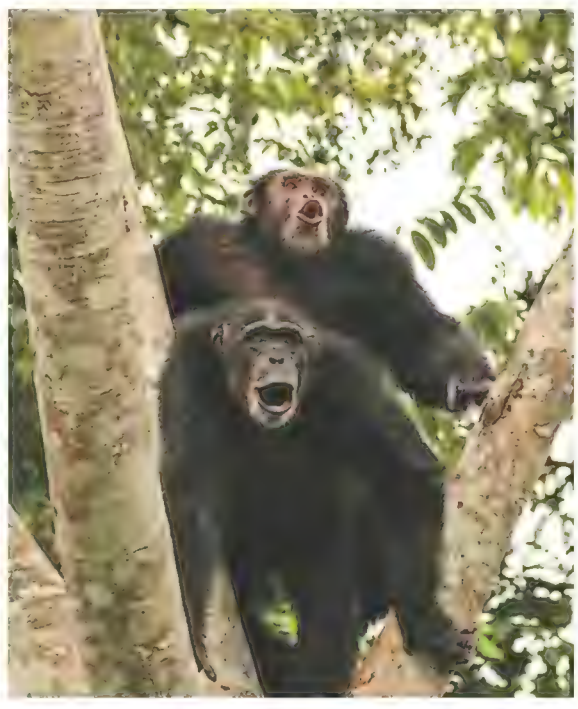
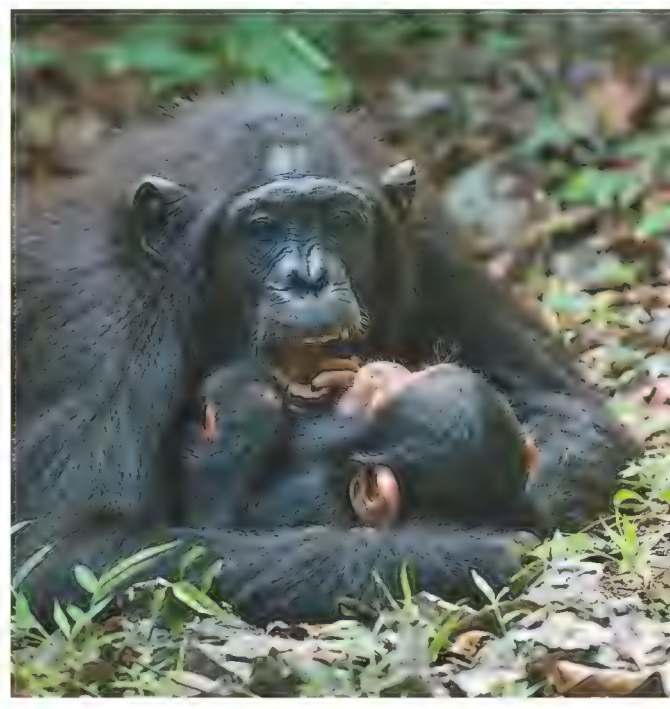
Boesch, Frans de Waal and Richard Wrangham. The audience gasped, oohed and aahed at the chimps' memory skills.

Ayumu next began doing a word-comprehension test known as the color Stroop task. Like his mother, he has learned that certain Japanese characters correspond to different colors. He can touch a colored dot and then touch the word for that color. But does he understand the word's meaning or has he just learned that when he connects this symbol with that one, he receives a treat? A dog, after all, can be taught to put a paw into a human's hand and "shake," but, as far as we know, it has no idea that shaking hands is a human greeting.

To test whether the chimps understand the meaning of words, researchers miscolor some of the words—showing, for example, the word "black" printed in the color red—and challenge Ayumu to identify the color of the word, not the word itself. Matsuzawa asked to borrow three writing pens of different colors: black, blue and red. He then wrote the English words for the colors in a variety of inks. He asked me to tell him, as quickly as I could, the colors in which the words were written. As he expected, I slowed down, and even stumbled, when the colors did not match the words. "The bottom line is it's hard to read 'red' in blue ink and say it's blue because you understand the meaning of the words," he said. Basically, when I saw red, I pictured the color red and had to block that knowledge, which takes a fraction of a second, to say "blue."

He then changed the words to Japanese characters,

BOTTOM: SUZI ESZTERHAS / MINDEN PICTURES; PASCAL GOUMI / PRIMATE RESEARCH INSTITUTE, KYOTO UNIVERSITY; SUZI ESZTERHAS / MINDEN PICTURES

which I do not understand. This time I had no trouble rattling off the colors. In the Stroop test, if the chimpanzees actually understand the meaning of the words for colors, they should take longer to match, say, the word "blue," when colored green, to a green dot. So far, Matsuzawa told me, preliminary data suggest the chimpanzees do, in fact, understand the meaning of the words.

Captive chimps have long been taught sign language or other communication techniques, and they can string together the symbols or gestures for words in simple "Me Tarzan, You Jane" combinations. And, of course, the animals use pant-hoots, grunts and screams to communicate. But in decades of ape language experiments, the chimpanzees have never demonstrated a human's innate ability to learn massive vocabularies, embed one thought within another or follow a set of untaught rules called grammar. So yes, chimpanzees can learn words. But so can dogs, parrots, dolphins and even sea lions. Words do not language make. Chimpanzees may well routinely master more words and phrases than other species, but a 3-year-old human has far more complex and sophisticated communication skills than a chimpanzee. "I do not say chimpanzees have language," Matsuzawa stresses. "They have language-like skills."

Before Ai, "I had simply thought that chimpanzees would be big black monkeys," Matsuzawa says.

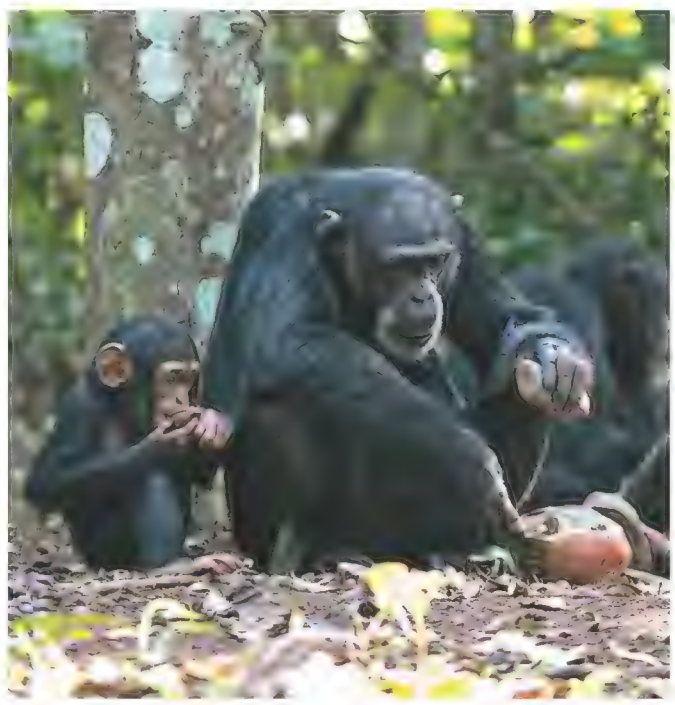
Despite Matsuzawa's precision, some people in the field caution that his experiments can fool us into granting chimpanzees mental faculties they do not possess. Other researchers found that they could perform as well as Ayumu on the numbers test if they practiced enough. And while no one disputes that Ai can sequence numbers and understands that four comes before five, chimp researcher Daniel Povinelli of the University of Louisiana at Lafayette says that feat is misleading. Unlike young human children, Ai, Povinelli contends, doesn't understand that five is greater than four, let alone that five is one more than four. Ai—in Povinelli's estimation "the most mathematically educated of all chimpanzees"—has never had that "aha" moment.

AS FASCINATING AS IT IS TO WATCH Ai and Ayumu working the touch-screen computers, I was even more struck by Matsuzawa's interactions with the animals. Once, watching Ayumu, I leaned against the Plexiglas to take some photographs. I was not using a flash and thought I was being discreet, almost invisible. But Ayumu jumped up, stretched his arms in display, smacked the Plexiglas and spit at me. He stood just inches from my face. "Stay right there, please," Matsuzawa said to me. I was completely safe, but still frightened by Ayumu's raw power.

As I sat frozen, trying not to react to the serious stink-eye from Ayumu, Matsuzawa slipped a jumpsuit over his clothes and a pair of thick gloves over his hands. With his race car attire in place and what looked like a bathroom scale tucked under one arm, he headed toward an entrance to the chimp enclosure. His staff hit buzzers, and a series of metal gates groaned open, allowing him to enter the booth.

Ayumu came right over to him. "Sit," commanded Matsuzawa, in English. "Be good boy." He pointed to Ayumu and also spoke to him in Japanese. Ayumu took a seat.

Matsuzawa and Ayumu played a nonverbal imitation game, with the chimp touching his lips, patting his head and opening his mouth in response to Matsuzawa's cues. At one point, when Ayumu realized he was not going to get a treat, he jumped up, and I was convinced he was going to bite Matsuzawa. But Matsuzawa slapped his back and took control, bulleting him with commands to sit, lie down and even climb the wall, each of which Ayumu dutifully obeyed. Then they rolled around on the ground together, wrestling, until Matsuzawa, tired, just flopped into a prone position and rested. When they were done playing, Matsuzawa weighed Ayumu



GAKU OHASHI / PRIMATE RESEARCH INSTITUTE, KYOTO UNIVERSITY

Matsuzawa has researched chimp behavior in the wild in Africa as well as in the lab. From far left: baby chimps cling to their mothers far more than human babies do, a key difference between us and them; chimps pant-hoot in greeting; a mother and infant gaze into each other's eyes, an intimate behavior not previously known to occur in chimps; a chimp eating ants "fished" from a nest exemplifies the primate's canny tool use; though a youngster learns by watching an adult crack nuts with a stone, researchers stop short of saying chimps actively engage in teaching.

and checked his teeth. He then turned and did the same with Ai. He wiped the floors with paper towels to collect samples of their urine, which he'll use to study hormonal levels. "For 30 years I've been with chimpanzees in the same room, and I still have ten fingers," Matsuzawa deadpanned.

In addition to running the institute for the past four years, Matsuzawa has operated a field station in Bossou, Guinea, since 1986, where he studies wild chimpanzees. In the primatology world, he is viewed as a top investigator. "Tetsuro Matsuzawa is sui generis, a unique primatologist who studies chimpanzees both in captivity and in the wild, generating rigorous, fascinating and important data about our closest evolutionary cousins," says evolutionary biologist Ajit Varki of the University of California at San Diego. "Unlike some others in the field, he also has a refreshingly balanced view of human-chimpanzee comparisons. On the one hand he has revealed some remarkable and unexpected similarities between the species—but on the other, he is quick to emphasize where the major differences lie."

At his field site in West Africa, he has studied everything from the animals' social dynamics to their feces (to understand the microbes that live in their intestines). He has focused on a capability that many researchers believe highlights a core difference between chimps and us: how they learn to use tools.

To crack nuts, chimps set up a stone anvil, place a nut on it and then smash it with a second stone used as a hammer. Matsuzawa, his former postdoctoral student Dora Biro of Oxford University and others have found that wild chimpanzees at Bossou do not teach the complicated behavior. The definition of "teaching" is a bit fuzzy, but it requires that three basic conditions be met. The action must come at some cost to the teacher. There must be a goal. And the teacher must use some form of encouragement or disapproval.

In Bossou, younger chimpanzees learn how to crack nuts simply by watching. This "master-apprenticeship" education, which Dutch primatologist Frans de Waal has compared to the way students learn to cut sushi after years of observing master chefs, means that chimpanzee adults do not reward their young when they do something the right way or punish them when they make a mistake. The young learn through trial and error.

Chimps eat nuts wherever they find them and wherever they have stones handy, which can make observing the behavior a matter of luck—especially in the forest, where it is often hard to see beyond a few yards. So in 1988 Matsuzawa created an outdoor laboratory in Bossou that has allowed his team to watch hundreds of hours of nut-cracking at close range. For a few months each year, the researchers place numbered stones of specific weights and dimensions on the ground and provide the chimps with piles of oil palm nuts. Then they hide behind a grass screen and watch the site from dawn to dusk, videotaping all chimpanzee visits. If teaching occurred, they would likely have seen it.

(There is some evidence of wild chimpanzees teaching nut-cracking in Tai National Park in the Ivory Coast. As Christophe Boesch's team looked on, a chimp mother repositioned a nut on an anvil for her son; in another case, a young chimp handed a hammer to her mother, who rotated the stone into a different position. But it's not clear that these actions came at a cost to the mothers, and the behavior occurred only twice in nearly 70 hours of observations of various chimp mothers cracking nuts with children present.)

Matsuzawa and his colleagues have documented other types of tool use: the chimpanzees fold leaves to scoop water, fashion a wand from a grass stem to retrieve algae from a pond, dip for ants or honey with sticks and use a pestle to pound the crown of an oil palm tree to extract something similar to heart of palm. Fifty years ago, when Jane Goodall first documented chimpanzees' use of tools, it turned dogma on its head, as many anthropologists had argued that this activity was the exclusive domain of humans. Today, it's less the tool use itself that interests chimpanzee researchers than the many variations on the theme, and, more importantly, how the animals transmit their skills from one generation to the next. In all the cases of tool use they have studied, Biro says, "we're not seeing any examples of active teaching."

Matsuzawa says he's hunting for nothing less than "the evolutionary basis of the human mind."

MATSUZAWA WANTS TO UNDERSTAND more than what chimpanzees know and can learn. His studies repeatedly bump up against the dividing line that separates us from them, revealing sometimes astonishing differences that ultimately clarify what makes chimps chimpy and humans human. We're both social creatures, we both communicate and we both pass on customs, but humans clearly are more advanced in each of these realms. Matsuzawa says he's hunting for nothing less than "the evolutionary basis of the human mind."

A few years back, he developed a theory about a fundamental difference between chimpanzees and us that might be at the root of human language. The story starts with a simple gaze. Monkeys rarely look into each other's eyes; what is known as a "mutual" gaze is usually read as a sign of hostility. Many scientists thought that affectionate eye-to-eye contact was uniquely human—until Matsuzawa and his colleagues put it to the test with chimps.

The birth of Ayumu and two other babies at the Primate Research Institute in a five-month span in 2000 gave Matsuzawa the opportunity to observe mother-infant pairs intensely. The scientists learned that new mothers looked into the eyes of their babies 22 times per hour. And chimp babies, like human infants, communicate by imitation, sticking out their tongues

Adapted from the book *Almost Chimpanzee: Searching for What Makes Us Human, in Rainforests, Labs, Sanctuaries, and Zoos* by Jon Cohen, published this month by Times Books, an imprint of Henry Holt and Company, LLC.
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or opening their mouths in response to similar adult human gestures. Because chimps and humans engage in this distinctive behavior but monkeys do not, Matsuzawa asserts that the common ancestor of chimps and humans must also have made eye-to-eye contact between mother and infant, thereby setting the stage for humans to develop our unique language skills.

Humans introduced a twist in this evolutionary tale. Chimpanzee babies cling to their mother. But our babies do not cling; mothers must hold their infants or they will fall. It may seem like a small difference, but it changes the way adults and infants interact.

Chimpanzees have babies once every four or five years, and those babies are constantly physically close to their mothers. But humans can reproduce more frequently and take care of multiple offspring at once. And a human mother is not the only possible caregiver. "We changed the system of rearing children and giving birth," Matsuzawa says. "With the assistance of spouse, and grandparents, we are collaborating together to raise children."

Because human mothers separate themselves from their babies, human babies have to cry to get attention. "Not many people recognize the importance," he says. "Human babies cry in the night, but chimpanzee babies never do because mother is always there." This crying is a proto-language of sorts.

"For 30 years I've been with chimpanzees in the same room," says Matsuzawa (with Ai, who is hanging from bars at the top of the enclosure), "and I still have ten fingers."

Add to this the fact that humans are the only primates that can lie on their backs without having to stabilize themselves. Chimpanzee and orangutan infants have to raise one arm and a leg on the opposite sides of their bodies to lie on their backs. They must grasp something. Human babies can stably lie in the supine position, allowing easy face-to-face and hand-gesturing communications to let others know what they're thinking or feeling.

"All of these things are interconnected, and from the beginning," Matsuzawa says. "The underlying mechanism of communication is completely different between humans and chimpanzees because of the mother-infant relationship." Though Matsuzawa's theory is difficult to test, it's logical and alluring. "What is the definition of humans?" he asks. "Many people say bipedal locomotion. Decades ago, they said it's language, tools, family. No. Everything is incorrect. My understanding is the stabile supine posture, that is completely unique to humans." Muscles, he says, shaped our minds.

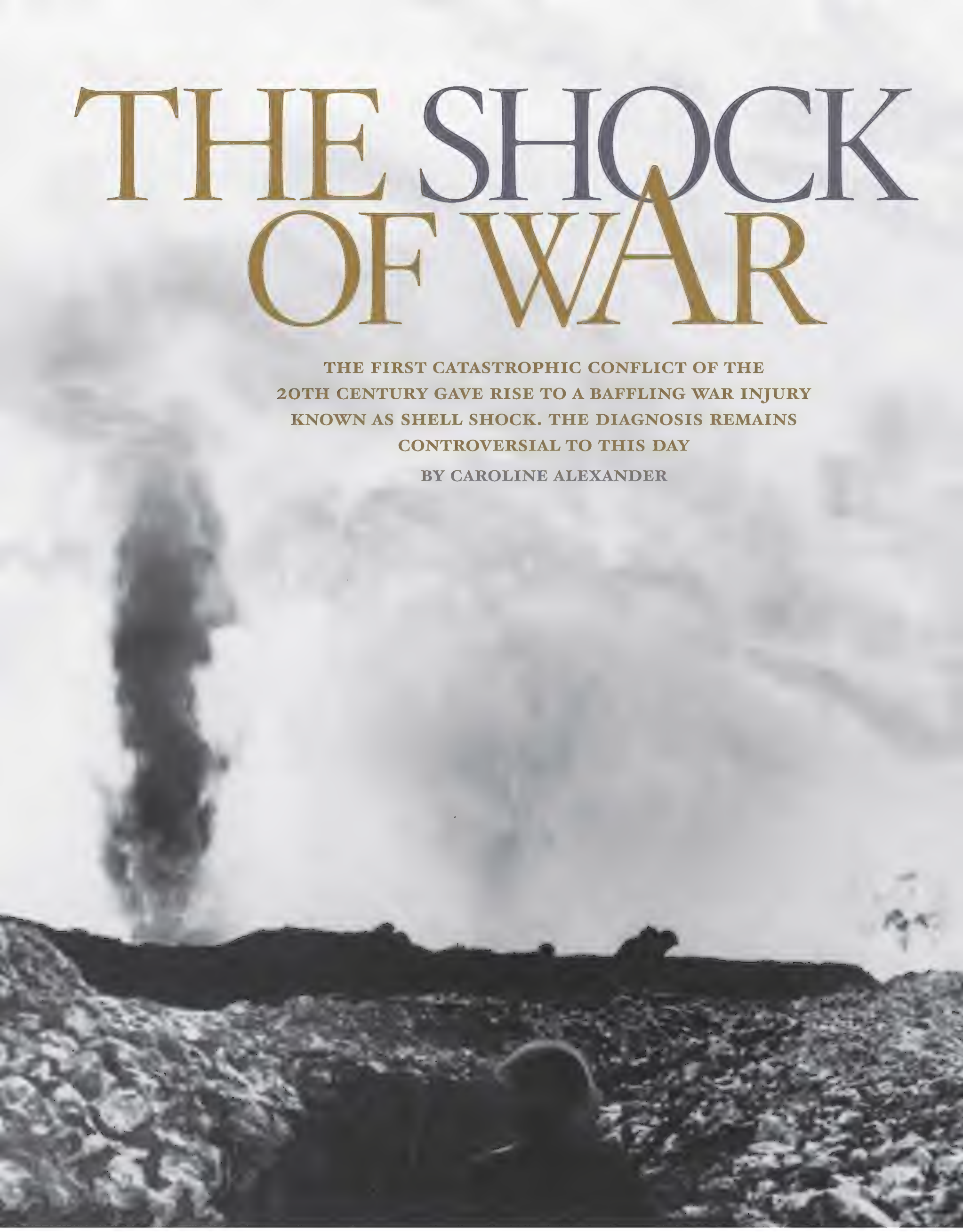
The list of differences between humans and chimpanzees is long, and the most obvious ones have received intense attention from researchers. We have bigger and more complex brains, full-fledged language and writing, sophisticated tools, the control of fire, cultures that become increasingly complex, permanent structures in which to live and work, and the ability to walk upright and travel far and wide. Matsuzawa and his colleagues are clarifying more subtle—but no less profound—distinctions that often are as simple as how a chimpanzee learns to crack a nut or how a human mother cradles her infant, rocks it to sleep and lays it down for a night's rest.

JON COHEN *wrote about stem cells for* SMITHSONIAN *in 2005.*
JENSEN WALKER *is a photographer based in Tokyo.*

THE SHOCK OF WAR

THE FIRST CATASTROPHIC CONFLICT OF THE 20TH CENTURY GAVE RISE TO A BAFFLING WAR INJURY KNOWN AS SHELL SHOCK. THE DIAGNOSIS REMAINS CONTROVERSIAL TO THIS DAY

BY CAROLINE ALEXANDER



IN SEPTEMBER 1914, AT THE VERY OUTSET OF THE GREAT WAR, a dreadful rumor arose. It was said that at the Battle of the Marne, east of Paris, soldiers on the front line had been discovered standing at their posts in all the dutiful military postures—but not alive. "Every normal attitude of life was imitated by these dead men," according to the patriotic serial *The Times History of the War*, published in 1916. "The illusion was so complete that often the living would speak to the dead before they realized the true state of affairs." "Asphyxia," caused by the powerful new high-explosive shells, was the cause for the phenomenon—or so it was claimed. That such an outlandish story could gain credence was not surprising: notwithstanding the massive cannon fire of previous ages, and even automatic weaponry unveiled in the American Civil War, nothing like this thunderous new artillery firepower had been seen before. A battery of mobile 75mm field guns, the pride of the French Army, could, for example, sweep ten acres of terrain, 435 yards deep, in less than 50 seconds; 432,000 shells had been fired in a five-day period of the September engagement on the Marne. The rumor emanating from there reflected the instinctive dread aroused by such monstrous innovation. Surely—it only made sense—such a machine must cause dark, invisible forces to pass through the air and destroy men's brains.

Shrapnel from mortars, grenades and, above all, artillery projectile bombs, or shells, would account for an estimated 60 percent of the 9.7 million military fatalities of World War I. And, eerily mirroring the mythic premonition of the Marne, it was soon observed that many soldiers arriving at the casualty clearing stations who had been exposed to exploding shells, although clearly damaged, bore no visible wounds. Rather, they appeared to be suffering from a remarkable state of shock caused by blast force. This new type of injury, a British medical report concluded, appeared to be "the result of the actual explosion itself, and not merely of the missiles set in motion by it." In other words, it appeared that some dark, invisible force had in fact passed through the air and was inflicting novel and peculiar damage to men's brains.

"Shell shock," the term that would come to define the phenomenon, first appeared in the British medical journal *The Lancet* in February 1915, only six months after the commencement of the war. In a landmark article, Capt. Charles Myers of the Royal Army Medical Corps noted "the remarkably close similarity" of symptoms in three soldiers who had each been exposed to exploding shells: Case 1 had endured six or seven shells exploding around him; Case 2 had been buried under earth for 18 hours after a shell collapsed his trench; Case 3 had been blown off a pile of bricks 15 feet high. All three men exhibited symptoms of "reduced visual fields," loss of smell and taste, and some loss of memory. "Comment on these cases seems superfluous," Myers concluded, after documenting in detail the symptoms of each. "They appear to constitute a definite class among others arising from the effects of shell-shock."

Early medical opinion took the common-sense view that the damage was "commotional," or related to the severe concussive motion of the shaken brain in the soldier's skull. Shell shock, then, was initially deemed to be a physical injury, and the shellshocked soldier was thus entitled to a distinguishing "wound stripe" for his uniform, and to possible discharge and a war pension. But by 1916, military and medical authorities were convinced that many soldiers exhibit-

Most of the 9.7 million soldiers who perished in WWI were killed by the conflict's unprecedented firepower. (Below: British troops at the Battle of Arras, 1917.) Many survivors experienced acute trauma, rendered above by artist Otto Dix.

ing the characteristic symptoms—trembling "rather like a jelly shaking"; headache; tinnitus, or ringing in the ear; dizziness; poor concentration; confusion; loss of memory; and disorders of sleep—had been nowhere near exploding shells. Rather, their condition was one of "neurasthenia," or weakness of the nerves—in laymen's terms, a nervous breakdown precipitated by the dreadful stress of war.

Organic injury from blast force? Or neurasthenia, a psychiatric disorder inflicted by the terrors of modern warfare? Unhappily, the single term "shell shock" encompassed both conditions. Yet it was a nervous age, the early 20th century, for the still-recent assault of industrial technology upon age-old sensibilities had given rise to a variety of nervous afflictions. As the war dragged on, medical opinion increasingly came to reflect recent advances in psychiatry, and the majority of shell shock cases were perceived as emotional collapse in the face of the unprecedented and hardly imaginable horrors of trench warfare. There was a convenient practical outcome to this assessment; if the disorder was nervous and not physical, the shellshocked soldier did not warrant a wound stripe, and if unwounded, could be returned to the front.

The experience of being exposed to blast force, or being "blown-up," in the phrase of the time, is evoked powerfully and often in the medical case notes, memoirs and letters of this era. "There was a sound like the roar of an express train, coming nearer at tremendous speed with a loud singing, wailing noise," recalled a young American Red Cross volunteer in 1916, describing an incoming artillery round. "It kept coming and coming and I wondered when it would ever burst. Then when it seemed right on top of us, it did, with a shattering crash that made the earth tremble. It was terrible. The concussion felt like a blow in the face, the stomach and all over; it was like being struck unexpectedly by a huge wave in the ocean." Exploding at a distant 200 yards, the shell had gouged a hole in the earth "as big as a small room."

By 1917, medical officers were instructed to avoid the term "shell shock," and to designate probable cases as "Not Yet Diagnosed (Nervous)." Processed to a psychiatric unit, the soldier was assessed by a specialist as either "shell shock (wound)" or "shell shock (sick)," the latter diagnosis being given if the soldier had not been close to an explosion. Transferred to a treatment center in Britain or France, the invalided soldier was placed under the care of neurology specialists and recuperated until discharged or returned to the front. Officers might enjoy a final period of convalescence before being disgorged back into the maw of the war or the working world, gaining strength at some smaller, often privately funded treatment center—some quiet, remote place such as Lennel House, in Coldstream, in the Scottish Borders country.

The Lennel Auxiliary Hospital, a private convalescent home for officers, was a country estate owned by Maj. Walter and Lady Clementine Waring that had been transformed, as had many private homes throughout Britain, into a treatment center. The estate included the country house, several farms, and woodlands; before the war, Lennel was celebrated for having the finest Italianate gardens in Britain. Lennel House is of interest today, however, not for its gardens, but because it preserved a small cache of medical case notes pertaining to shell shock from the First World War. By a savage twist of fate, an estimated 60 percent of British military records from World War I were destroyed in the Blitz of World War II. Similarly, 80 percent of U.S. Army service records from 1912 to 1960 were lost in a fire at the National Personnel Records Office in St. Louis, Missouri, in 1973. Thus, although shell shock was to be the signature injury of the opening war of the modern age, and although its vexed

Shell shock, the signature injury of the Great War, applied both to soldiers exposed to blast force and those suffering emotionally from war's ravages (left: British prisoners at the Battle of the Somme in 1916; right: a hospital in Antwerp, Belgium).

ULLSTEIN BILD / GRANGER COLLECTION, NEW YORK; PP. 60-61 GRANGER COLLECTION, NEW YORK; PP. 58-59 HULTON ARCHIVE / GETTY IMAGES; P. 59 SNARK / ART RESOURCE, NY

diagnostic status has ramifications for casualties of Iraq and Afghanistan today, relatively little personal medical data from the time of the Great War survives. The files of the Lennel Auxiliary Hospital, however, now housed in the National Archives of Scotland, had been safeguarded amid other household clutter in the decades after the two world wars in a metal box in the Lennel House basement.

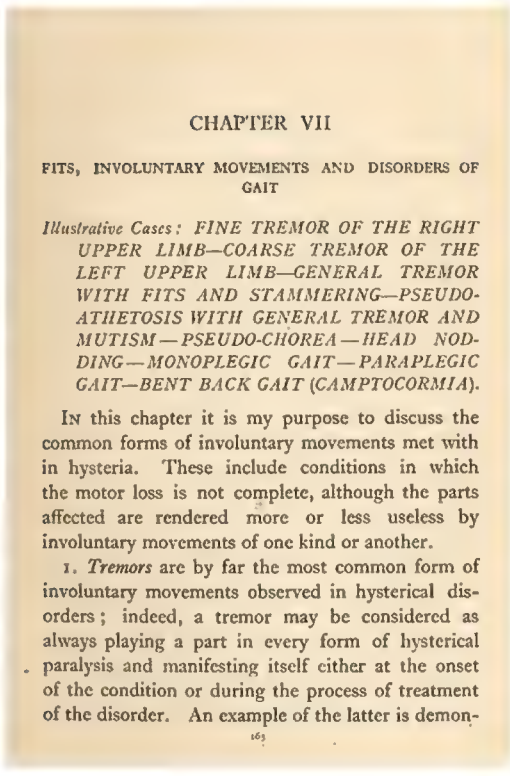
In 1901, Maj. Walter Waring, a distinguished officer and veteran of the Boer War and a Liberal MP, had married Lady Susan Elizabeth Clementine Hay and brought her to Lennel House. The major was in uniform for most of the war, on duty in France, Salonika and Morocco, and it was therefore Lady Clementine who had overseen the transformation of Lennel House into a convalescent home for neurasthenic soldiers. The daughter of the 10th Marquess of Tweeddale, "Clemmie," as she was known to her friends, was 35 years old in 1914. She is fondly recalled by her grandson Sir Ilay Campbell of Succoth and his wife, Lady Campbell, who live in Argyll, as "a presence" and great fun to be with—jolly and amusing and charming. A catalog of Lady Clementine's correspondence, in Scotland's National Archives, gives eloquent evidence of her charm, referencing an impressive number of letters from hopeful suitors, usually young captains, "concerning their relationship and possible engagement."

Generally arriving at Lennel from treatment centers in London and Edinburgh, convalescing officers were received as country house guests. A handsome oak staircase dominated Lennel's entry hall and led under an ornate glass dome to the upper floor, where each officer found his own pleasant bedroom, with windows opening onto the garden or with views of the woodlands and the Cheviot Hills beyond; there appear to have been only about a dozen residents at any one time. Downstairs, the private study of Major Waring had been appropriated during his absence to the war as an officers' mess, while his paneled library was available to the bookish: Siegfried Sassoon, who was to emerge as one of the outstanding poet chroniclers of the war, found here "a handsome octavo edition" of a Thomas Hardy novel, and spent a rainy day carefully trimming its badly cut pages. Meals were presided over by the officers' hostess, the beautiful, diminutive Lady Clementine.

Their common status as officers notwithstanding, the men came from many backgrounds. Lt. R. C. Gull had been educated at Eton, Oxford and Sandhurst before receiving his commission in November 1914, for example, while Lieutenant Hayes, of the Third Royal Sussex Regiment, had been born in London, educated in England and Switzerland, and had emigrated to Canada, where he had been engaged in "Business & Farming" before the war. The officers had been Australian station managers, chartered accountants, partners in banking firms and, intriguingly, "a trader and explorer in Central Africa." The men had seen action in many campaigns, on many fronts, including the Boer War. A number had served at Gallipoli, and all too many had been injured on the Western Front.

Life at Lennel was conducted in the familiar and subtly strict routine of the well-run country house, with meals at set times, leisurely pursuits and tea on the terrace. Lady Clementine's family mixed freely with the officer guests, her youngest daughter, "Kitty," who was only 1 year old when the war broke out, being a special favorite. Kept busy throughout the day with country walks, chummy conversation, piano playing, table tennis, fishing, golfing and bicycling, and semiformal meals, each officer nonetheless retired at night to his private room and here confronted, starkly and alone, the condition that had brought him this peaceful interlude in the first place.

"Has vivid dreams of war episodes—feels as if sinking down



CHAPTER VII

FITS, INVOLUNTARY MOVEMENTS AND DISORDERS OF GAIT

Illustrative Cases: FINE TREMOR OF THE RIGHT UPPER LIMB—COARSE TREMOR OF THE LEFT UPPER LIMB—GENERAL TREMOR WITH FITS AND STAMMERING—PSEUDO-ATHETOSIS WITH GENERAL TREMOR AND MUTISM—PSEUDO-CHOREA—HEAD NODDING—MONOPLEGIC GAIT—PARAPLEGIC GAIT—BENT BACK GAIT (CAMPTOCORMIA).

IN this chapter it is my purpose to discuss the common forms of involuntary movements met with in hysteria. These include conditions in which the motor loss is not complete, although the parts affected are rendered more or less useless by involuntary movements of one kind or another.

1. *Tremors* are by far the most common form of involuntary movements observed in hysterical disorders; indeed, a tremor may be considered as always playing a part in every form of hysterical paralysis and manifesting itself either at the onset of the condition or during the process of treatment of the disorder. An example of the latter is demon-

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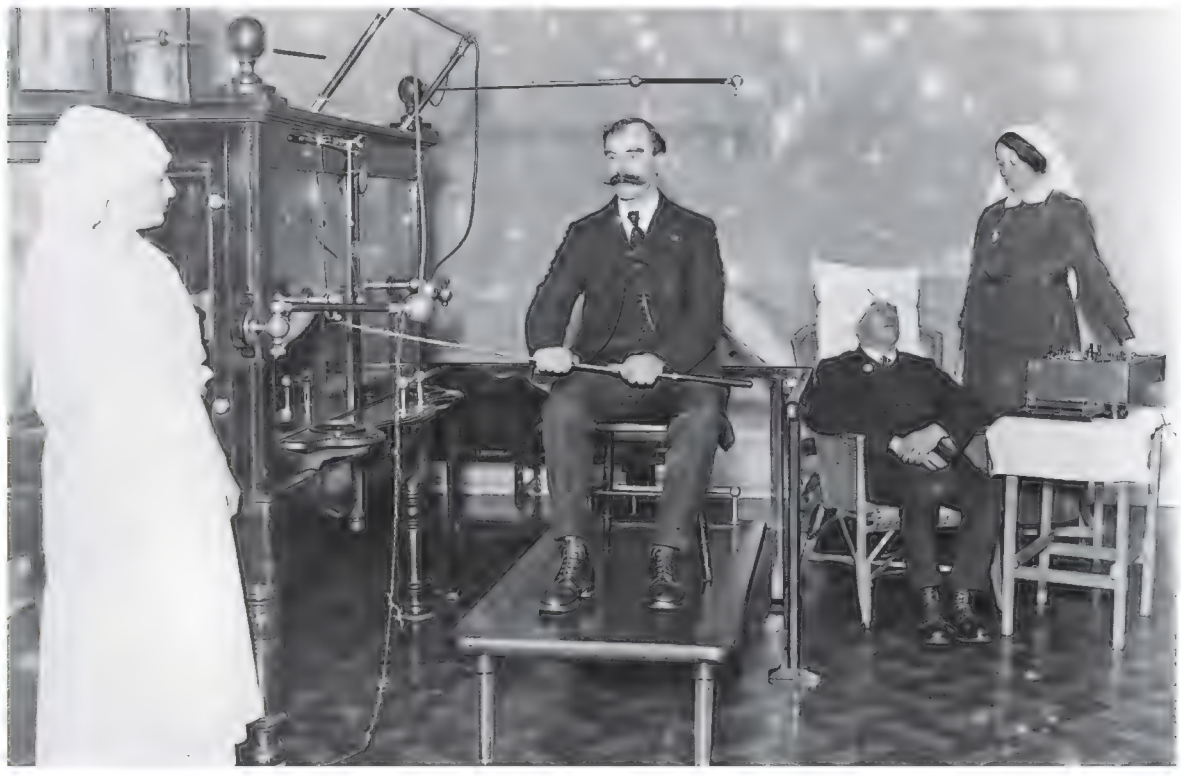

The author of *Hysterical Disorders of Warfare* (above left) claimed to have cured soldiers of their tremors and stammering with electric shock therapies. Other doctors also used experimental treatments (above right: England's Sir William Hospital).

HYSTERICAL DISORDERS OF WARFARE (1918) BY DR. LEWIS YEALLAND; CENTRAL PRESS / GETTY IMAGES

Lady Clementine Waring (center: with daughter Clematis) welcomed shellshocked officers to Lennel House, her country estate in Scotland that served as a wartime convalescent home. Poet Siegfried Sassoon (top right) and Richard Gull (above right) enjoyed Lennel's quiet surroundings and diverse activities. Heraldic shields, painted by patients, decorated the mess hall (left).

in bed"; "Sleeping well but walks in sleep: has never done this before: dreams of France"; "Insomnia with vivid dreams of fighting"; and "Dreams mainly of dead Germans . . . Got terribly guilty conscience over having killed Huns."

The terse medical case notes, averaging some three pages per patient, introduce each officer by name and age, cite his civilian address as well as regiment and service details, and include a brief section for "Family History," which typically noted whether his parents were still alive, any familial history of nervous disorders and if a brother had been killed in the war. Education, professional life and an assessment of the officer's temperament before his breakdown were also duly chronicled. Captain Kyle, for example, age 23 and in service for three years and three months at the time of admittance to Lennel had previously been a "Keen athlete, enjoyed life thoroughly, no nerves." Brigadier General McLaren had also been "Keen on outdoor sports"—always the benchmark of British mental health—but had "Not very many friends."

Many treatments abounded for the neurasthenic soldier. The most notorious were undoubtedly Dr. Lewis Yealland's electric shock therapies, conducted at the National Hospital for Paralysed and Epileptic, at Queen Square, London, where he claimed his cure "had been applied to upwards of 250 cases" (an unknown number of which were civilian). Yealland asserted that his treatment cured all the most common "hysterical disorders of warfare"—the shaking and trembling and stammering, the paralysis and disorders of speech—sometimes in a single suspect half-hour session. Electric heat baths, milk diets, hypnotism, clamps and machines that mechanically forced stubborn limbs out of their frozen position were other strategies. As the war settled in, and shell shock—both commotional and emotional—became recognized as one of its primary afflictions, treatment became more sympathetic. Rest, peace and quiet, and modest rehabilitative activities became the established regimen of care, sometimes accompanied by psychotherapy sessions, the skillful administration of which varied from institution to institution and practitioner to practitioner.

While the officers at Lennel were clearly under medical supervision, it is not evident what specific treatments they received. Lady Clementine's approach was practical and common-sensical. She was, according to her grandson Sir Ilay, an early advocate of occupational therapy—keeping busy. Painting, in particular, seems to have been encouraged, and a surviving photograph in a family album shows Lennel's mess hall ringed with heraldic shields, each officer having been instructed by Lady Clementine to paint his family coat of arms.

CAROLINE ALEXANDER'*s latest book is* The War That Killed Achilles: The True Story of Homer's Iliad and the Trojan War.

PRIVATE COLLECTION (2); GEORGE C. BERESFORD / GETTY IMAGES; PRIVATE COLLECTION; P. 63 RODDY MACKAY; PRIVATE COLLECTION

Lady Clementine (below: front row in dark hat) presided over Lennel (above), which operated "in the familiar and subtly strict routine of the well-run country house, with meals at set times . . . and tea on the terrace." Many officers would write to her to say how much their stay helped them. Said Henry Hazelhurst (below: standing far left): "It made me feel quite a different man."

(And if they didn't have one? "I expect they made one up," Sir Ilay recalled, amused.) But beyond the nature of the men's treatment, of course, was the larger, central, burning question of what, really, was the matter.

The symptoms recorded in the case notes, familiar from literature of the time, are clear enough: "palpitations—Fear of fainting . . . feeling of suffocation, of constriction in throat"; "Now feels worn out & has pain in region of heart"; "Depression—Over-reaction—Insomnia—Headaches"; nervousness, lassitude, being upset by sudden noise"; "Patient fears gunfire, death and the dark . . . In periods of wakefulness he visualizes mutilations he has seen, and feels the terror of heavy fire"; "Depressed from incapacity to deal with easy subjects & suffered much from eye pain." And there is the case of Second Lieutenant Bertwistle, with two years of service in the 27th Australian Infantry, although only 20 years of age, whose face wears a "puzzled expression" and who exhibits a "marked defect of recent and remote memory." "His mental content appears to be puerile. He is docile," according to the records that accompanied him from the Royal Victoria Military Hospital in Netley, on England's south coast.

The official Report of the War Office Committee of Enquiry Into "Shell-Shock" made at war's end gravely concluded that "shell-shock resolves itself into two categories: (1) Concussion or commotional shock; and (2) Emotional shock" and of these "It was given in evidence that the victims of concussion shock, following a shell burst, formed a relatively small proportion (5 to 10 per cent)." The evidence about damage from "concussion shock" was largely anecdotal, based heavily upon the observations of senior officers in the field, many of whom, veterans of earlier wars, were clearly skeptical of any newfangled attempt to explain what, to their mind, was simple loss of nerve: "New divisions often got 'shell shock' because they imagined it was the proper thing in European warfare," Maj. Pritchard Taylor, a much-decorated officer, observed. On the other hand, a consultant in neuropsychiatry to the American Expeditionary Force reported a much higher percentage of concussion shock: 50 percent to 60 percent of shell shock cases at his base hospital stated they had "lost consciousness or memory after having been blown over by a shell." Unfortunately, information about the circumstances of such injuries was highly haphazard. In theory, medical officers were instructed to state on a patient's casualty form whether he had been close to an exploding shell, but in the messy, frantic practice of processing multiple casualties at hard-pressed field stations, this all-important detail was usually omitted.

Case notes from Lennel, however, record that a remarkable number of the "neurasthenic" officers were casualties of direct, savage blast force: "Perfectly well till knocked over at Varennes . . . after this he couldn't sleep for weeks on end"; "He has been blown up several times—and has lately found his nerve was getting shaken." In case after case, the officer is buried, thrown, stunned, concussed by exploding shells. Lieutenant Graves had gone straight from Gallipoli "into line & through Somme." In fighting around Beaumont Hamel in France, a shell had landed "quite close & blew him up." Dazed, he was helped to the company dugout, after which he "Managed to carry on for some days," although an ominous "Weakness of R[ight] side was developing steadily." Ironically, it was precisely the soldier's ability "to carry on" that had aroused skepticism over the real nature of his malady.

The extent to which blast force was responsible for shell shock is of more than historic interest. According to a Rand Corporation study, 19 percent of U.S. troops sent to Iraq and Afghanistan, about 380,000, may have sustained brain injuries from explosive devices—a fact that has prompted comparisons with the British experience at the Somme in 1916. In 2009, the U.S. Defense Advanced Research Projects Agency (DARPA) made public the results of a two-year, $10 million study of the effects of blast force on the human brain—and in doing so, not only advanced the prospect of modern treatment but cast new light on the old shell shock conundrum.

"DID YOU REALLY AND TRULY MEAN THAT I WOULD BE WELCOME AT LENNEL IF I EVER GET THE OPPORTUNITY FOR ANOTHER VISIT?" ONE OFFICER ASKED YEARNINGLY.

The study revealed that limited traumatic brain injury (TBI) may manifest no overt evidence of trauma—the patient may not even be aware an injury has been sustained. Diagnosis of TBI is additionally vexed by the clinical features—difficulty concentrating, sleep disturbances, altered moods—that it shares with post-traumatic stress disorder (PTSD), a psychiatric syndrome caused by exposure to traumatic events. "Someone could have a brain injury and be looking like it was PTSD," says Col. Geoffrey Ling, the director of the DARPA study.

Differentiation between the two conditions—PTSD and TBI, or the "emotional" versus "commotional" puzzle of World War I—will be enhanced by the study's most important find: that at low levels the blast-exposed brain remains structurally intact, but is injured by inflammation. This exciting prospect of a clinical diagnosis was presaged by the observation in World War I that spinal fluid drawn from men who had been "blown up" revealed changes in protein cells. "They were actually pretty insightful," Ling says of the early medics. "Your proteins, by and large, are immunoglobulins, which basically are inflammatory. So they were ahead of their time."

"You can never tell how a man is going to do in action," a senior officer had observed in the War Office Committee report of 1922, and it was this searing truth of self-discovery that the patients at Lennel feared. They were betrayed by the stammering and trembling they could not control, the distressing lack of focus, their unmanly depression and lassitude. No list of clinical symptoms, such as the written records preserve, can do justice to the affliction of the shellshocked pa-

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tient. This is more effectively evoked in the dreadful medical training films of the war, which capture the discordant twitching, uncontrollable shaking and haunting vacant stares. "Certainly one met people who were—different," Sir Ilay recalled gently, speaking of damaged veterans he had seen as a boy, "and it was explained of their being in the war. But we were all brought up to show good manners, not to upset."

Possibly, it was social training, not medical, that enabled Lady Clementine to assist and solace the damaged men who made their way to Lennel. If she was unsettled by the sights and sounds that filled her home, she does not seem to have let on. That she and her instinctive treatment were beneficial is evident from what is perhaps the most remarkable feature of the Lennel archive—the letters the officers wrote to their hostess upon leaving.

"I am quite unable adequately to express my gratitude to you for your kindness and hospitality to me," wrote Lieutenant Craven, as if giving thanks for a pleasant weekend in the country. Most letters, however, run to several pages, their eager anecdotes and their expressions of anxieties and doubt give evidence of the sincerity of the writer's feeling. "I got such a deep breath of 'Lennel,' while I was reading your letter," wrote one officer from the Somme in December 1916, "& I'll bet you had your tennis shoes on, & no hat, & a short skirt, & had probably just come in from a walk across the wet fields"; "Did you really and truly mean that I would be welcome at Lennel if I ever get the opportunity for another visit?" one officer asked yearningly.

After the war, shell shock cases increased. Disabled veterans found refuge in such places as the Anzac Hostel in Australia.

A number of the letters are written from hotels while awaiting the results of medical boards. Most hoped for light duty—the dignity of continued service but without the dreaded liabilities. "The Medical Board sent me down here for two months light duty after which I must return to the fray!" writes Lieutenant Jacob, and, as a wistful postscript; "Did you ever finish that jolly Japanese puzzle picture?!" For some, the rush of the outside world came at them too fast: "I have been annoyed quite a lot at little things & my stammer has returned," one officer confided. Several write from other hospitals; "I had not the remotest idea of how & when I came here," Lieutenant Spencer wrote to Lady Clementine. "I do not know what really happened when I took ill but I do sincerely hope that you will forgive me if I was the cause of any unpleasant situation or inconvenience."

At war's end, the legions of shellshocked veterans dispersed into the mists of history. One catches glimpses of them, however, through a variety of oblique lenses. They crop up in a range of fiction of the era, hallucinating in the streets of London, or selling stockings door to door in provincial towns, their casual evocation indicating their familiarity to the contemporary reader.

Officially they are best viewed in the files of the Ministry of Pensions, which had been left with the care of 63,296 neurological cases; ominously, this number would rise, not fall, as the years passed, and by 1929—more than a decade after the conclusion of the war—there were 74,867 such cases, and the ministry was still paying for such rehabilitative pursuits as basket making and boot repairing. An estimated 10 percent of the 1,663,435 military wounded of the war would be attributed to shell shock; and yet study of this signature condition—emotional, or commotional, or both—was not followed through in the postwar years.

Following the Great War, Major Waring served as Parliamentary private secretary to Winston Churchill. For her work at Lennel House, Lady Clementine was made a Commander of the British Empire. She died in 1962, by which time the letters and papers of her war service were stored in the Lennel House basement; there may be other country houses throughout Britain with similar repositories. Lennel House itself, which the family sold in the 1990s, is now a nursing home.

The fate of some officers is made evident by Lady Clementine's correspondence: "Dear Lady Waring . . . my poor boys death is a dreadful blow and I cant realize that he has gone forever. . . . Oh it is too cruel after waiting three long weary years for him to come home." Very occasionally, too, it is possible to track an officer through an unrelated source. A photograph that had been in the possession of Capt. William McDonald before he was killed in action in France, in 1916, and which is now archived in the Australian War Memorial, shows him gathered with other officers on the Lennel House steps, with Lady Clementine. Some later hand has identified among the other men "Captain Frederick Harold Tubb VC, 7th Battalion of Longwood," and noted that he died in action on 20 September 1917; this is the same "Tubby" who had written to Lady Clementine a month earlier, at the completion of an 11-hour march, heading his letter simply "In the Field": "An aeroplane tried to shoot us last night with a m[achine] gun besides dropping sundry bombs around. It rained a heavy storm last night. It is raining off an[d] on today. The weather is warm though. My word the country round here is magnificent, the splendid wheat crops are being harvested. . . . "

NATIONAL ARCHIVES OF AUSTRALIA (A7342, ALBUM 2)

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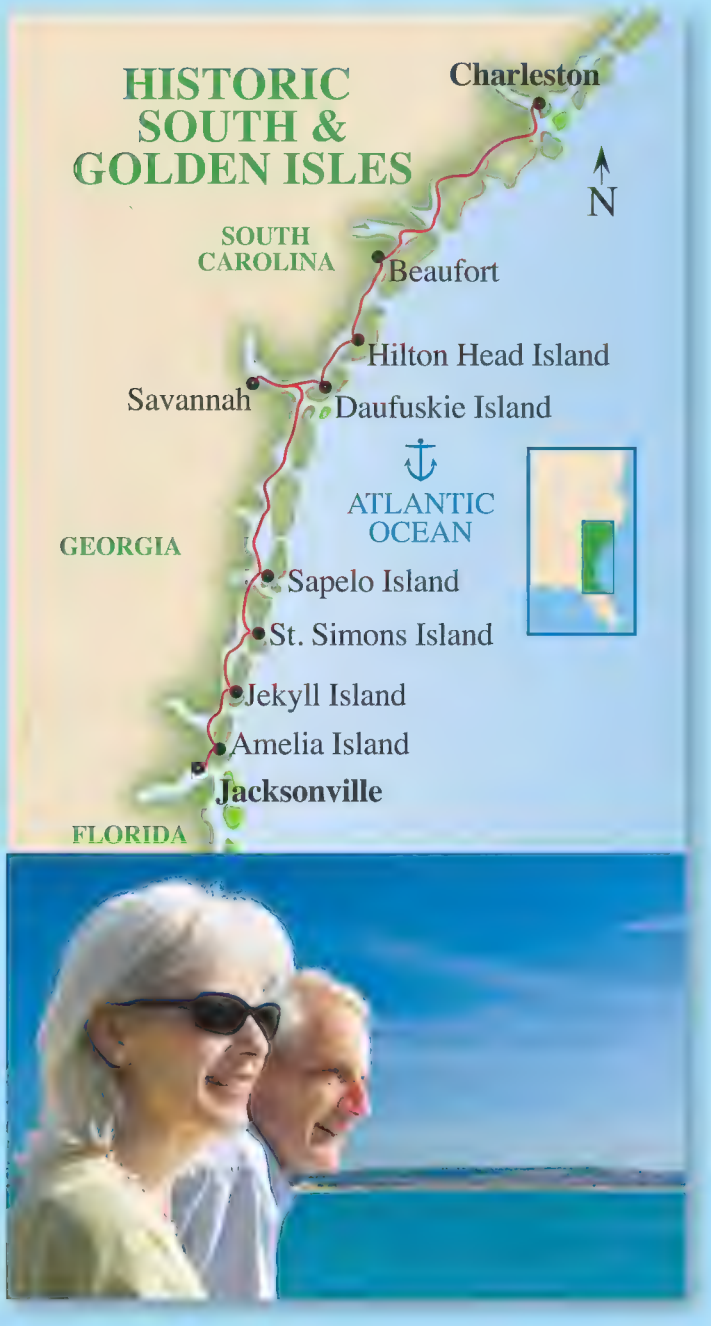
SMOOTH WATERS
SOUTHERN CHARM



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PATHWAY HO

AN INNOVATIVE PROGRAM IN CALIFORNIA BRINGS RELIEF TO COMBATANTS AFFLICTED BY POST-

AND BRAIN INJURIES BY ROBERT M. POOLE PHOTOGRAPHS BY CATHERINE KARNOW

OME

TRAUMATIC STRESS DISORDER

The Pathway Home encourages its residents to go into the community. "The real test is when you go outside," explains program director Fred Gusman (above: in glasses, with, from left, Josh Prior, Lucas Dunjaski and Ryan Kahlor at Napa, California's Black Bear Diner).

THEY WENT OFF TO WAR BRIMMING WITH confidence and eager for the fight in Iraq and Afghanistan. They returned, many of them, showing no visible wounds but utterly transformed by combat—with symptoms of involuntary trembling, irritability, restlessness, depression, nightmares, flashbacks, insomnia, emotional numbness, sensitivity to noise, and, all too often, a tendency to seek relief in alcohol, drugs or suicide.

"Families and friends are shocked when one of these guys comes back," says Fred Gusman, a social worker and mental health specialist now serving as director of the Pathway Home, a nonprofit residential treatment center in Yountville, California, where active and retired service members suffering from post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI) are learning to make the hard transition from war to civilian life.

"The guy who looked like G.I. Joe when he left home comes back a different person," says Gusman, a Vietnam-era veteran who pioneered treatment for warriors suffering from stress-related illness in the 1970s. "We called it post-Vietnam syndrome back then," Gusman adds, noting a link between combat and mental trauma that dates to the Civil War. That war produced an anxiety disorder known as "soldier's heart"; World War I gave rise to shell shock; World War II and Korea produced battle fatigue.

Each clash of arms spawned its own array of psychic injuries, with striking similarities to those haunting thousands of combatants from the current wars. "You get the 10,000-mile stare," says Gusman. "You shut down emotionally except when you're raging with anger. You are hyper-vigilant because you don't know where the enemy is. You look for signs of trouble in the line at Wal-Mart, or when someone crowds you on the freeway, or when there's a sudden noise. They are very, very watchful. This kept them alive in Iraq and Afghanistan, but it becomes a problem when they come home. It's not like a light switch you can turn off or on. I tell the guys they have to play detective, to figure out why they're angry or anxious and unravel it. We give them the tools to realize when they're spinning and need to stop. They learn to modulate their emotions."

Since opening his facility on the grounds of Yountville's Veterans Home of California in 2008, Gusman and his staff of 18 have treated almost 200 wounded warriors, many of whom had found only frustration when they sought treatment at military hospitals or V.A. centers.

"There's no compassion. I felt constantly ridiculed," says Lucas Dunjaski, a former Marine corporal diagnosed with PTSD in 2004 while serving in Iraq. Returning home, he ran into marital difficulties, drank heavily and sought treatment at the V.A. Hospital in Menlo Park, California, which specializes in PTSD care. He gave up after two one-week hospital stays a year apart. "It wasn't a healing environment," he recalls. "I tried to commit suicide. I just couldn't pull it together." (Since Dunjaski's V.A. experience, the Department of Veterans Affairs announced in July that it is easing the process for those seeking disability for PTSD.) For his part, Dunjaski enrolled in the Pathway program last spring, which handles as many as 34 patients at a time. "I came here thinking it was my last option. I would be dead if I didn't have this program," says Dunjaski, now 25. Finishing treatment in July, he felt that things were finally looking up: he had just moved into a house with his new wife and had hopes for the future. "I know I'm going to be OK."

What differentiates Pathway from standard facilities? A seasoned staff with military experience, few patients, a high tolerance for emotional outbursts and eccentric behavior, the collegial atmosphere of a campus instead of a hospital setting and a willingness to try anything. Realizing that Pathway could treat a mere fraction of the 30,000 veterans returning to California each year, Gusman resolved to create a model program that the V.A. and others could adapt. One such program, the recently opened National Intrepid Center of Excellence for treating TBI and psychological ailments in Bethesda, Maryland, takes a holistic approach to treatment, inspired, in part, by Gusman's program.

Pathway prides itself on—and credits its success to—being open to innovative treatments (above left: Justin Moore practices yoga; above center: Tommy Aldridge with his service dog, Champ, who helps him manage anxiety).

The Pathway team carefully monitors medications, guides veterans through treatment for substance and alcohol abuse, encourages regular morning walks in the hills and watches for signs of TBI, a head injury that produces short-term memory loss, difficulty with speech and balance problems. "Many of our guys have some TBI on top of PTSD," says Gusman. "The two conditions overlap, so you're not going to know right away if it's TBI, PTSD or both. It takes a willingness to ride the waves with the guys to help figure out what's agitating them. Other places don't have that sort of time. I think that's why traditional institutions struggle with this population. We're open to anything."

While most patients leave Pathway after a few months, Gusman has treated some for as long as a year. "What do you do?" he asks. "Throw them away?" Because of Gusman's willingness to experiment, the Pathway program has an improvisational quality, which includes family counselors, yoga instructors, acupuncturists, service dogs and twice-weekly

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follow-up text messages to support graduates and monitor how they are faring.

Gusman and his staff preside over anger management sessions, prod patients for details of their prewar history and coach them on how to navigate the V.A. system. They gradually reintroduce the men to life in Napa Valley, where Rotary Club members and others from the community have adopted Gusman's ragtag band of brothers: veterans go bowling, tour the countryside on bikes, learn fly-fishing—all Gusman's way of keeping them busy and breaking their sense of isolation. "The real test is when you go outside," he says. "That's why we encourage them to get out into the community."

Inside, patients talk about their wartime experience in group meetings known as trauma sessions, which are at the core of the Pathway program. In these arduous talkfests, warriors relive their days on the front lines, recalling scenes they would rather forget—the friend cut in half by an improvised explosive device, the comrade killed because he could not bring himself to shoot the enemy who used a child as a shield, the young warrior who lost one leg in an explosion and awoke as the other was being amputated, the Navy corpsman working frantically to save severely wounded Marines as bullets whizzed by his head and hope slipped away.

"No movie begins to portray the horror, the shock, the emotional aspect of being there," says that Navy corpsman, retired Senior Chief Trevor Dallas-Orr. Like others who have been through the Pathway program, Dallas-Orr, a decorated veteran of the first Gulf War and Iraq, credits Pathway with saving his life.

Many Pathway graduates who've reclaimed their lives ascribe their hard-won success to its program. "If it hadn't been for this place," says retired Navy corpsman Trevor Dallas-Orr (above right), "I'd be dead."

"I lost my family, my job, my home, my identity," recalls Dallas-Orr, 45, who was living out of his car when he vainly sought treatment in the V.A. system. "Fred's team opened me up and I started to realize, 'Hey, this is a good thing.' If it hadn't been for this place, I'd be dead. I would've just melted away."

After almost a year of treatment at Pathway, Dallas-Orr returned home to Southern California this past spring. He still struggles with nightmares, insomnia and outbursts of anger, but he has learned to manage them, and he has re-established contact with his two estranged sons. He recently spoke to an audience of several hundred people in San Diego for Operation Welcome Home, an event organized by Gov. Arnold Schwarzenegger to honor returning warriors. "No way in hell I could have done that before," says Dallas-Orr.

Sitting across the table, Gusman credits Dallas-Orr and his fellow warriors with their own revival. "Well, I always say you guys are doing it yourselves," says Gusman. "It's your courage that pushes you forward. Our joy is seeing you being successful in your own right. That's how we get our goodies."

Gusman's program faces an uncertain future, however. Pathway's one-time initial grant of $5 million ran out in August. The center is raising funds to keep its doors open.

ROBERT M. POOLE *is a contributing editor. Photographer* **CATHERINE KARNOW** *is based in Mill Valley, California.*

REINVENTING RIO

People of every income level and skin color mix comfortably on Rio's gorgeous beaches (Ipanema-Leblon).

Approaching its 450th anniversary, Rio de Janeiro is getting ready for its close-ups—as host of the 2012 Earth Summit, the 2014 World Cup and the 2016 Olympics **BY ALAN RIDING**

PHOTOGRAPHS BY EDUARDO RUBIANO MONCADA

WHEN IT COMES TO RIO DE JANEIRO there is no avoiding the obvious. The city may be as famous for its *Carnaval*, soccer, flesh and fun as it is infamous for its hillside slums and organized crime. Yet its defining feature remains its breathtaking setting. No visitor can ever forget viewing the city from on high for the first time. Even natives—the Cariocas—stand in awe of its grandeur. How could I feel different? I, too, was born there. As a writer friend, Eric Nepomuceno, put it, "only Paris comes close to matching Rio in self-love."

Mountains rise to the east and west and protrude like giant knuckles from inside the city itself. Stretching to the north is a vast bay, which Portuguese navigators evidently thought was a river when they first sighted it in January 1502. Hence the name Rio de Janeiro (River of January). For centuries, ferries carried people and cargo to and from the city of Niterói on the bay's eastern shore; today a seven-mile-long bridge crosses the bay. And standing guard at its entrance is the 1,300-foot-high granite mound known as the Pão de Açúcar—the Sugar Loaf.

To the west, two long curving beaches—Copacabana and Ipanema-Leblon—run along the city's Atlantic shoreline, only to be interrupted by twin mountains, the Dois Irmãos, or the Two Brothers. Behind the beaches lies a glistening lagoon, Lagoa Rodrigo de Freitas, and the Botanical Gardens. From there, thick tropical forest reaches up into the Tijuca National Park, "every square inch filling in with foliage," as the American poet Elizabeth Bishop put it a half-century ago. And rising 2,300 feet out of this vegetation is still another peak, the Corcovado, or the Hunchback, crowned by the 125-foot-tall—including the pedestal—statue of Christ the Redeemer.

"RIO [IS] A SHIP ADRIFT. WE LOST THE CAPITAL AND GOT NOTHING."

Then there are the less sublime areas. Rio's North Zone, which begins at the city center and sprawls for miles inland, resembles many cities in developing countries, with crowded highways, run-down factories, crumbling housing projects and many of Rio's more than 1,000 shantytowns, or *favelas*, as they're known. Anyone landing at Antônio Carlos Jobim International Airport (named after the late bossa nova composer) is confronted with this unexpected, dismaying sight as they go to their likely destinations in the South Zone of the city.

Then suddenly another Rio comes into view. The bayside highway curves around the city center before dipping into the majestic Aterro do Flamengo park and sweeping past the Sugar Loaf. It then enters the tunnel leading to Copacabana and the broad Avenida Atlántica, which stretches nearly three miles along the beach. A different route south passes under the Corcovado and reappears beside the Lagoa Rodrigo de Freitas, following its shores to Ipanema-Leblon. (That was my way home when I lived in Rio in the 1980s.)

The Atlantic beaches are the city's playgrounds, with sunbathers crowding near the waves and soccer and volleyball occupying much of the rest. The beaches are also strikingly heterogeneous: people of all income levels and colors mix comfortably, while women and men of every shape feel free to wear the skimpiest of swimsuits. Actors, journalists, lawyers and the like have their favorite meeting places at beachside cafés selling beer, sodas, coconut milk and snacks. There is even a corridor for cyclists and joggers.

Away from the sea, though, the Copacabana neighborhood looks run-down and its streets are often clogged with traffic. Even the more elegant Ipanema and Leblon, one beach but two neighborhoods, coexist with those hillside favelas, highlighting the gulf between Rio's rich and poor. During violent storms in April this year it was mainly residents of the favelas who died—251 in greater Rio—as a result of landslides. Favelas are also routinely blamed for drug-related violence and all-too-frequent muggings. With the pleasures of living in the beauteous South Zone, then, comes the need for security.

Farther west, beyond Leblon and a smaller beach called São Conrado, is a third Rio, Barra da Tijuca, with 11 miles of sand and no encroaching mountains. Forty years ago, it seemed an obvious place to accommodate Rio's growing middle class. But what was intended as a model urban development has become a soulless expanse of apartment blocks, highways, supermarkets and, yes, more favelas, including the one, Cidade de Deus, that gave its name to Fernando Meirelles' award-winning 2002 movie, *City of God*.

So, for all their devotion to "the marvelous city," as they call Rio, Cariocas know full well that their hometown has been in decline. The slide began 50 years ago when Brazil's

"Rio's narcissism was once a sign of its self-sufficiency," says novelist Nélida Piñón. "Now it's a sign of its insecurity."

The 2016 Olympics has spurred $11.6 billion from the government to spruce up Rio (future Museum of Image and Sound site).

capital moved to Brasília. For two centuries before then, Rio was the capital of finance and culture as well as politics. To the rest of the world, Rio was Brazil. But once politicians, civil servants and foreign diplomats moved to the new capital in 1960, São Paulo increasingly dominated the nation's economy. Even important oil fields off the coast of Rio brought little solace. The state government received a share of royalties, but no oil boom touched the city. Rio was stripped of its political identity but found no substitute. Many Brazilians no longer took it seriously: they went there to party, not to work.

"I'd call Rio a ship adrift," says Nélida Piñón, a Brazilian novelist. "We lost the capital and got nothing in return. Rio's narcissism was once a sign of its self-sufficiency. Now it's a sign of its insecurity."

Lately, Rio has even fallen behind the rest of Brazil. For the first time in its history, Brazil has enjoyed 16 years of good government, first under President Fernando Henrique Cardoso and now under President Luiz Inácio Lula da Silva, who is to leave office on January 1, 2011. And the result has been political stability, economic growth and new international prestige. But during much of this time, Rio—both the city and the state that carries its name—has been plagued by political infighting, incompetence and corruption. And it has paid the price in poor public services and mounting crime.

MAP: GUILBERT GATES

Yet, for all that, when I recently returned to Rio, I found many Cariocas full of optimism. The city looked much as it did a decade ago, but the future looked different. And with good reason. Last October, Rio was chosen to host the 2016 Summer Olympics, the first to be held in South America and, after Mexico City in 1968, only the second in Latin America. As if in one fell swoop, Cariocas recovered their self-esteem. Further, Lula's strong support for Rio's Olympic bid represented a vote of confidence from Brazil as a whole. And this commitment looks secure with either of the main candidates to succeed Lula in general elections on October 3—Dilma Rousseff, Lula's hand-picked nominee, and José Serra, the opposition challenger. Now, with federal and state governments pledging $11.6 billion in extra aid to prepare the city for the Olympics, Rio has a unique chance to repair itself.

"Barcelona is my inspiring muse," Eduardo Paes, the city's energetic young mayor, told me in his downtown office, referring to how the Catalan capital used the 1992 Summer Olympics to modernize its urban structures. "For us, the Olympics are not a panacea, but they will be a turning point, a beginning of the transformation." And he listed some upcoming events that

will measure the city's progress: the Earth Summit in 2012, known as Rio+20, two decades after the city hosted the first Earth Summit; the soccer World Cup in 2014, which will take place across Brazil, with the final to be held in Rio's Maracanã stadium; and the city's 450th anniversary in 2015.

For the Olympics, at least, Rio need not start from scratch. Around 60 percent of the required sports installations were built for the 2007 Pan American Games, including the João Havelange Stadium for athletics; a swimming arena; and facilities for gymnastics, cycling, shooting and equestrian events. The Lagoa Rodrigo de Freitas will again be used for the rowing competitions and Copacabana for beach volleyball, while the marathon will have numerous scenic routes to choose from. The Rio Olympics Organizing Committee will have a budget of $2.8 billion to ensure every site is in good shape.

But because many competition venues will be a dozen or more miles from the new Olympic Village in Barra da Tijuca, transportation could become an Olympic-size headache. Barra today is linked to the city only by highways, one of which goes through a tunnel, the other over the Tijuca Mountains. While about half the athletes will compete in Barra itself, the rest must be transported to three other Olympic "zones," including the João Havelange Stadium. And the public has to get to Barra and the other key areas.

To pave the way, the organizing committee is counting on a $5 billion state and municipal investment in new highways, improvements to the railroad system and an extension of the subway. The federal government has also committed to modernize the airport by 2014, a long overdue upgrade.

Yet even if the Olympics are a triumph for Rio, and

EVEN NATIVES STAND IN AWE OF THE CITY'S GRANDEUR.

Brazil does unusually well in medals, there is always the morning after. What will happen to all those splendid sports installations after the closing ceremony on August 21, 2016? The experience of numerous Olympic cities, most recently Beijing, is hardly encouraging.

"We're very worried about having a legacy of white elephants," said Carlos Roberto Osório, the secretary general of the Brazilian Olympic Committee. "With the Pan American Games, there was no plan for their use after the games. The focus was on delivering the installations on time. Now we want to use everything that is built and we're also building lots of temporary installations."

"Only Paris," says writer and journalist Eric Nepomuceno (left), "comes close to matching Rio in self-love."

Rio remains Brazil's culture capital, attracting artists, writers and, especially, musicians (the bossa nova was born near Copacabana beach).

Rio already has one embarrassing white elephant. Before leaving office in late 2008, César Maia, then the mayor, inaugurated a $220 million City of Music in Barra, designed by French architect Christian de Portzamparc. It is still not finished; work on its three concert halls has been held up by allegations of corruption in construction contracts. Now the new mayor has the unhappy task of completing his predecessor's prestige project.

At the same time, Paes is looking to finance his own pet project. As part of a plan to regenerate the shabby port area on the Baía de Guanabara, he commissioned Spanish architect Santiago Calatrava, renowned for his sculptural forms, to design a Museum of Tomorrow, which would focus on the environment and, hopefully, be ready for the 2012 Earth Summit. His initial designs were unveiled this past June.

New museums with bold architecture have long been an easy way of raising a city's profile. Rio's Modern Art Museum on the Aterro do Flamengo did that in the 1960s. Since the 1990s, Oscar Niemeyer's UFO-like Contemporary Art Museum in Niterói has been the main reason for tourists to cross the bay. And construction will soon begin on a new Museum of Image and Sound, designed by the New York-based firm Diller Scofidio + Renfro, on Copacabana's Avenida Atlántica.

Culture is the one area where Rio holds its own in its decades-old rivalry with São Paulo, its larger and far richer neighbor. São Paulo boasts the country's most important universities, newspapers, publishing houses, recording companies, theaters and concert halls. But Rio remains the cradle of creativity; Brazil's dominant television network,

Globo, is headquartered in the city and employs a small army of writers, directors and actors for its ever-popular soap operas. Also, Globo's nightly news is beamed across Brazil from its studios in Rio. But more importantly, as "a city that releases extravagant freedoms," in Piñón's words, Rio inspires artists and writers.

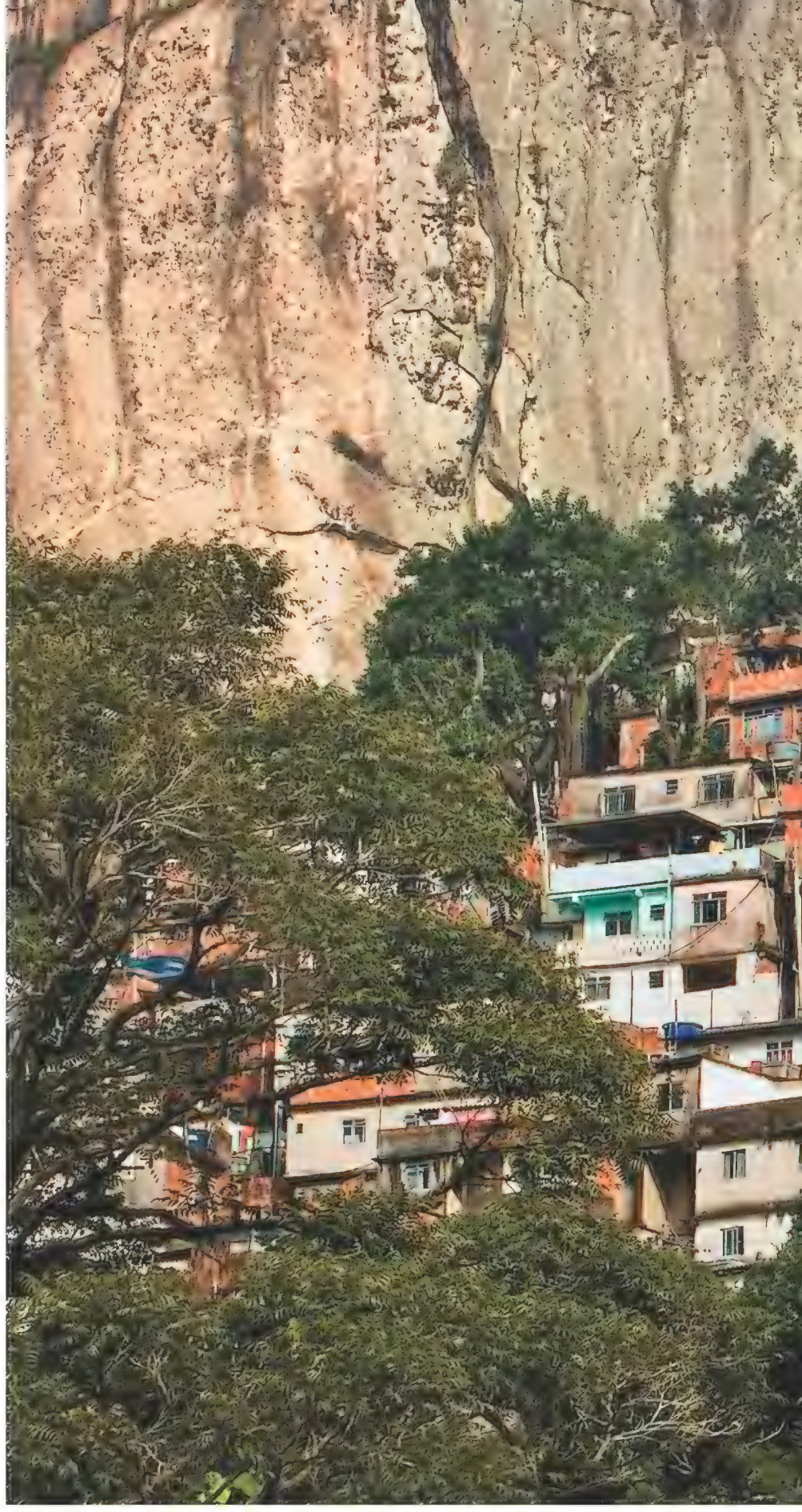
And musicians, who play not only samba, choro and now funk, but also bossa nova, the sensual jazz-influenced rhythm that gained international fame with such hits as Antônio Carlos Jobim's "Girl from Ipanema." One evening, I joined a crowd celebrating the reopening of the three cramped nightspots in Copacabana—Little Club, Bottle and Baccarat—where the bossa nova was born in the late 1950s.

"Rio remains the creative heart of Brazilian music," said Chico Buarque, who has been one of the country's most admired singer-composers for over 40 years and is now also a best-selling novelist. São Paulo may have a wealthier audience, he says, "but Rio exports its music to São Paulo. The producers, writers and performers are here. Rio also imports music from the United States, from the Northeast, then makes it its own. Funk, for instance, becomes Brazilian when it is mixed with samba."

Popular music can be heard across the city, but the downtown neighborhood of Lapa is the new hot spot. In the 19th century, it was an elegant residential district reminiscent of New Orleans and, while its terraced houses have known better days, many have been converted into bars and dance halls where bands play samba and choro and the forró rhythms of northeastern Brazil. In the weeks before the pre-Lenten Carnaval, attention turns to Rio's *escolas de samba*, or samba "schools," which are, in fact, large neighborhood organizations. During Carnaval, the groups compete for the title of champion, taking turns to parade their dancers and colorful floats through a noisy and crowded stadium known as the Sambódromo.

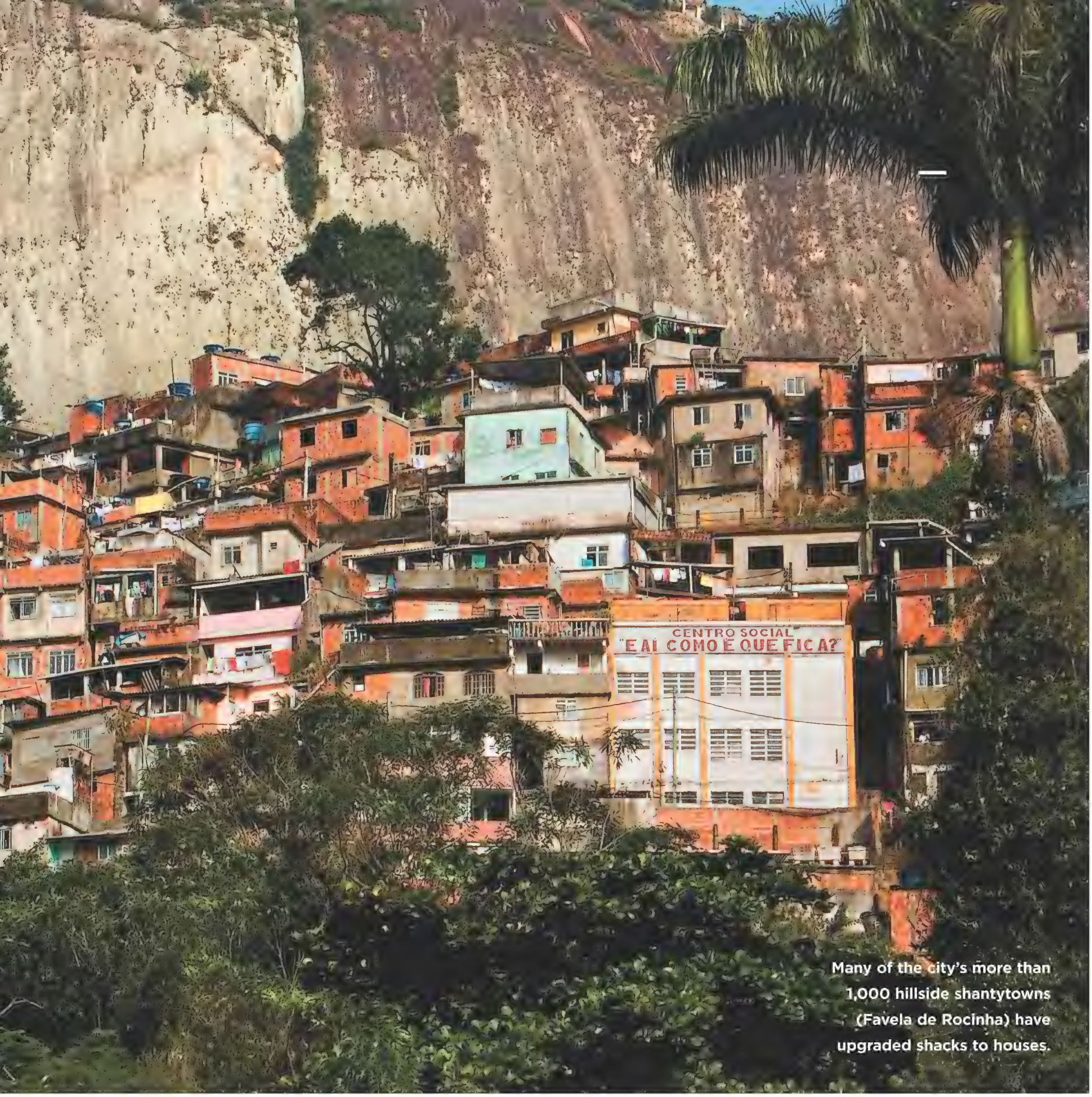
Rio is also a magnet for writers. As a legacy of its years as the country's capital, the city is still home to the Brazilian Academy of Letters, which was founded in 1897 and modeled on the Académie Française. Among its 40 *immortels* today are Piñón, the novelists Lygia Fagundes Telles, Rubem Fonseca and Paulo Coelho and the author of popular children's books, Ana Maria Machado. But even Fonseca's novels, which are set

"I WAS LAUGHED AT UNTIL THEY SHOT DOWN A HELICOPTER."



A pacification program to reduce lawlessness in some favelas is an important part of Rio's preparations for the Olympics.

LEFT: NADIA SHIRA COHEN



Many of the city's more than 1,000 hillside shantytowns (Favela de Rocinha) have upgraded shacks to houses.

in Rio's underworld, rely on São Paulo for their readership.

Except for music, Cariocas are not great consumers of culture. Alcione Araújo, a playwright and lecturer, thinks he knows why. "In a city with these skies, beaches and mountains, it is a crime to lock people inside a theater," he said. And he might have added movie theaters and art galleries. Walter Moreira Salles Jr., who directed the award-winning movies *Central Station* and *The Motorcycle Diaries*, lives in Rio, but looks beyond the city for his audience. A painter friend of mine, Rubens Gerchman, who died in 2008, moved to São Paulo to be close to his market.

But Silvia Cintra, who has just opened a new gallery in Rio with her daughter Juliana, prefers to be close to her artists. "São Paulo has more money, but I think that 80 percent of Brazil's most important artists live and work in Rio," she said. "São Paulo treats art as a commodity, while the Carioca buys art because he loves it, because he has passion. Rio has space, oxygen, energy, everything vibrates. The artist can work, then go for a swim. You know, I have never felt as happy about Rio as now."

Cariocas have long accepted the hillside favelas as part of the landscape. Writing in *Tristes Tropiques*, French anthropologist Claude Lévi-Strauss described what he saw in 1935: "The poverty-stricken lived perched on hills in favelas where a population of blacks, dressed in tired rags, invented lively melodies on the guitar which, during carnaval, came down from the heights and invaded the city with them."

Today, although many of Rio's favelas still lack running water and other basic necessities, many have improved. Brick and concrete houses have replaced wooden shacks,

and most communities have shops; many have schools. Until around 20 years ago, the favelas were relatively tranquil, thanks to the power of the *bicheiros*, godfather-like figures who run an illegal gambling racket known as the "animal game." Then the drug gangs moved in.

In the late 1980s, Colombian cocaine traffickers opened new routes to Europe through Brazil. Homegrown gangsters stepped in to supply the local market, much of it found among the young and wealthy of the South Zone. Soon, protected by heavy weapons, they set up their bases inside the favelas.

The response of the state government, which is in charge of security, was largely ineffective. Police would carry out raids, engage in furious gun battles with traffickers—kill some, arrest others—then leave. With most drug gangs linked to one of three organized crime groups, Comando Vermelho (Red Command), Amigos dos Amigos (Friends of Friends) and Terceiro Comando Puro (Pure Third Command), favela residents were routinely terrorized by bloody turf wars.

The reputation of Rio's police was little better. Many were thought to be on the traffickers' payroll. A December 2009 report by the New York City-based Human Rights Watch accused police officers of routinely executing detainees they claimed had been killed resisting arrest. In some favelas, police have driven out the traffickers—only to set up their own protection rackets.

Fernando Gabeira is one politician with direct experience of urban warfare. In the late 1960s, having joined leftist guerrillas fighting Brazil's military dictatorship, he participated in kidnapping the American ambassador, Charles Burke Elbrick. Elbrick was released after he was swapped for political prisoners, while Gabeira was himself arrested and then freed in exchange for another kidnapped foreign diplomat. When Gabeira returned to Brazil after a decade in exile, he was no longer a militant revolutionary and soon won a seat in Congress representing the Green Party. Having narrowly lost in Rio's mayoral elections in 2008, he plans to challenge Sérgio Cabral's bid for re-election as state governor in October.

"The principal characteristic of the violence is not drugs, but the occupation of territory by armed gangs," Gabeira said over lunch, still dressed in beach clothes. "You have 600,000 to 1 million people living in favelas outside the control of the government. And this is the state government's responsibility." Like many experts, he rejects the automatic link between poverty and violence. "My view is that we should combine social action and technology," he said. "I suggested we use drones to keep an eye on the traffickers. I was laughed at until they shot down a police helicopter."

The downing of the helicopter last October took place just two weeks after the city was chosen to host the 2016 Olympics, following Governor Cabral's assurances to the International Olympic Committee that army and police reinforcements would guarantee the security of athletes and the public. After the helicopter was shot down, Cabral threw his weight behind a new strategy designed by the state's security secretary, José Beltrame.

Starting in the South Zone, Cabral ordered the state government to establish a permanent police presence—so-called Police Pacification Units—in some favelas. After police were met by gunfire, they began a policy of leaking to the media which favela they would next target, giving traffickers time to leave and, it soon transpired, to invade favelas farther inland.

One morning I visited Pavão, Pavãozinho and Cantagalo, a three-community favela overlooking Copacabana and Ipanema, which has been peaceful since this past December. First settled a century ago, the favela has a population estimated at 10,000 to 15,000. A cable car built in the 1980s takes residents up the slope and returns with garbage in cans. It has a primary school, running water and some drainage. For years, it was also a drug stronghold. "There were constant gun battles," recalled Kátia Loureiro, an urban planner and financial director of a community organization called Museu de Favela. "There were times when we all had to lie on the floor."

Today, heavily armed police stand at the favela's entrance, while others patrol its narrow alleys and steep steps. After visiting the local school and a boxing club, I came across the Museu de Favela, which was founded two years ago to empower favela residents to develop their community and improve living conditions. Even during the bad times, it organized courses to train cooks, waiters, seamstresses, craftsmen and artists. Now it offers tours of its "museum," which is what it calls the entire favela. Says the

"WE DON'T NEED MORE COPS, WE NEED MORE CULTURE."

Carlos Esquivel, a.k.a. Acme, is a rapper and community organizer who works on art projects with favela children.

A beach party during the 2010 World Cup: "Rio has space, oxygen, energy," says one art gallery owner.

group's executive director, Márcia Souza: "The idea is, 'My house is in the favela, so I am part of the museum.'"

My visit began with a rooftop performance by Acme, the stage name of a local rapper and Museu founder. "We don't need more cops," he told me, "we need more culture, more rap, more graffiti, more dance." The Museu sees social exclusion, not violence, as the problem in the favelas.

I took the cable car up to the home of Antônia Ferreira Santos, who was selling local handicrafts. She showed me her rooftop garden of herbs and medicinal plants. My final stop was at a little square where 11 boys and 5 girls of the local samba school were practicing drumming. With Carnaval only two weeks away, there was no time to waste.

Just how many of the city's roughly 1,000 favelas can be "pacified" by 2016 is unclear. Of course if Rio is to fully exploit its potential as a tourist destination, it must do more. It needs an up-to-date airport, better transportation and greater overall security, as well as new hotels and easier access to popular sites like the Corcovado.

One man who believes in getting things done is the city's new cheerleader, Eike Batista, an oil and mining magnate and reputedly Brazil's wealthiest man. After working mainly abroad for years, he returned home in 2000 and, unusually for a Brazilian industrialist, chose to live in Rio rather than São Paulo. "I said at the time, 'I'm going to spend my millions to fix this city,'" he recounted when I called on him at his home overlooking the Botanical Gardens. In a city with little tradition of individual philanthropy, he started by spending $15 million to help clean the lagoon.

In 2008, Batista bought the once-elegant Hotel Glória, which is now undergoing a $100 million makeover. He then acquired the nearby Marina da Glória, a port for leisure boats, and is modernizing it at a cost of $75 million. He is putting up two-thirds of the estimated $60 million it will take to build a branch of a top-flight São Paulo hospital and has invested $20 million in movie productions in Rio. Over a dinner with Madonna last November, he committed $7 million for her children's charity. He even built his own Chinese restaurant a mile from his home. "It's difficult to fly to New York once a week to eat well," he said with a laugh.

So, yes, things are stirring in Rio. Plans and promises are in the air, objectives are being defined and, thanks to the Olympics, a deadline looms to focus the mind. True, not all Cariocas support the Rio Olympics: they fear that massive public works will bring massive corruption. But the countdown has begun and Cariocas have six years to prove they can change their city for the better. When the Olympic flame is lit in Maracanã on August 5, 2016, a verdict will be returned. Only then will they know if the entire exercise was worthwhile.

ALAN RIDING *was the Brazil bureau chief for the* New York Times. *He now lives in Paris.* **EDUARDO RUBIANO MONCADA** *grew up in Cali, Colombia. He travels the world on assignment.*

Share this story and read about Rio's music scene at smith.hy.pr/rio

OVER THE HUMP

IN THE DESERTS OF YEMEN, ZARANIQ TRIBESMEN VIE TO LEAP CAMELS IN A SINGLE BOUND

PHOTOGRAPHS BY ADAM REYNOLDS

AMONG THE MEMBERS of the Zaraniq tribe on the west coast of Yemen are, apparently, the world's only professional camel jumpers. "This is what we do," says Bhayder Mohammed Yusef Qubaisi, a champion bounder. The presumably ancient sport was recently documented by Adam Reynolds, a 30-year-old photojournalist from Bloomington, Indiana.

Reynolds spent six months in Yemen before being deported this past May, he believes for photographing leaders of a secessionist movement. Politically, Yemen is troubled, with a repressive but weak government beleaguered by insurgents in the largely lawless northern and southern regions. U.S. authorities have expressed concern that a large number of Al Qaeda and other terrorists operate there.

The Zaraniq live in the Tihama-al-Yemen, a desert plain on the Red Sea, and they are mostly poor; Qubaisi's home is a one-room hut. To see the daredevils in action, Reynolds traveled a dirt track to a village southeast of the coastal city of al-Hudaydah. "It was pretty amazing," he says of the acrobatic athletics. "They did it with such ease and grace. Afterward, though, I wondered why there hasn't been a Yemeni long jump Olympic champion yet." **BRANDON SPRINGER**

Share this story and see more of the camel jumpers at smith.hy.pr/camels

Legend has it that camel jumping began many generations ago with a dare between two Zaraniq tribesmen. Today's jumpers train year-round for competitions during festivals and weddings. The athletic performance goes hand in hand with traditional tribal dancing (far left), Reynolds says; they both involve leaps and high kicks. For a jumping contest (above), animals are rounded up from nearby villages. Tribesmen tuck their robes—light blue, the color of choice for Zaraniq camel jumpers—around their waists (left) and sprint. The winner is the man—women do not participate, but can occasionally watch—who clears the most dromedaries.

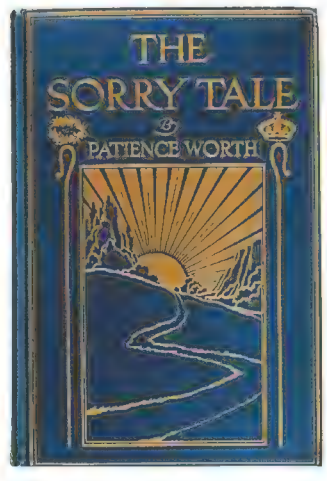
BRANDON SPRINGER *is a* SMITHSONIAN *editorial intern. This is photojournalist* ADAM REYNOLDS' *first appearance in the magazine.*

GHOST WRITER

Pearl Curran, a St. Louis housewife, channeled a 17th-century spirit to the heights of 20th-century literary stardom

BY GIOIA DILIBERTO ILLUSTRATION BY DOUGLAS SMITH

One cool autumn evening in 1919, a crowd of prominent New Yorkers jammed the parlor of an East Side town house to meet a writing prodigy named Patience Worth. A prolific charmer who was known for her flashy verbal stunts and quick wit, Patience dictated two original poems—about Russia and the Red Cross—in rapid succession, followed by a lyrical tribute to an editor friend. Though she seemed to compose the works on the spot, her words flowed with the quality of messages punched out by teletype. Poet Edgar Lee Masters was among the astonished guests. "There is no doubt . . . she is producing remarkable literature," the author of *Spoon River Anthology* told a reporter, though "how she does it I cannot say." Nor could he say how Patience looked, though she was thought to be young and pretty, with wavy red hair and large brown eyes. No one, however, actually saw her. She wasn't real. She was an ambitious, hard-working spirit.



Speaking through a Ouija board operated by Pearl Lenore Curran, a St. Louis housewife of limited education, Patience Worth was nothing short of a national phenomenon in the early years of the 20th century. Though her works are virtually forgotten today, the prestigious *Braithwaite* anthology listed five of her poems among the nation's best published in 1917, and the *New York Times* hailed her first novel as a "feat of literary composition." Her output was stunning. In addition to seven books, she produced voluminous poetry, short stories, plays and reams of sparkling conversation—nearly four million words between 1913 and 1937. Some evenings she worked on a novel, a poem and a play simultaneously, alternating her dictation from one to another without missing a beat. "What is extraordinary about this case is the fluidity, versatility, virtuosity and literary quality of Patience's writings, which are unprecedented in the history of automatic writing by mediums," says Stephen Braude, a professor of philoso-

Curran (opposite) began channeling messages from Patience Worth in 1913 by means of a Ouija board. The messages would ultimately total millions of words, including a well-reviewed novel (above) and poems that were anthologized.

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FARE WELL

phy at the University of Maryland Baltimore County and a past president of the American Parapsychological Association, who has written widely on paranormal phenomena.

Almost overnight, Patience transformed Pearl Curran from a restless homemaker plagued by nervous ailments into a busy celebrity who traveled the country giving performances starring Patience. Night after night Pearl, a tall, blue-eyed woman in a fashionable dress, would sit with her Ouija board while her husband, John, recorded Patience's utterances in shorthand. Those who witnessed the performances, some of them leading scholars, feminists, politicians and writers, believed they'd seen a miracle. "I still confess myself completely baffled by the experience," Otto Heller, dean of the Graduate School at Washington University in St. Louis, recalled years later.

Through Pearl, Patience claimed to be an unmarried Englishwoman who had emigrated to Nantucket Island in the late 1600s and been killed in an Indian raid. For three centuries, she said, she'd searched for an earthly "crannie" (as in "cranium") to help her fulfill a burning literary ambition. She'd found it at last in Pearl.

Patience appeared on the scene just when spiritualism, enjoying its last great American revival, collided with the age of science, and a brigade of investigators, including magician Harry Houdini, prowled the nation to expose bogus mediums. Since most mediums were women—the spiritualist movement accorded women social status they rarely attained elsewhere—this crusade turned into an epic battle of the sexes: supposed hard-nosed men of science against swooning female seers.

A long list of psychical sleuths, psychologists and other skeptics tried to debunk Patience and prove that Pearl was a fraud. No one succeeded. Scholars who examined Patience's work marveled at her deep knowledge of the plants, customs, clothing and cuisine of several historical epochs, stretching back to the ancients, and at her ability to draw on this vast knowledge without hesitation. "Maybe there was some preparation going on during the day, yet that alone cannot account for the material Pearl was producing," says Daniel Shea, professor emeritus of English at Washington University, who has studied the case and believes it can be explained without citing supernatural forces.

The Patience Worth case remains one of the most tantalizing literary mysteries of the last century, a window onto a vanished era when magic seemed to exist because so many people believed in it. In the decades since Pearl Curran's death, in 1937, no one has explained how she produced Patience's writing. Combing through the voluminous archives, however, a modern sensibility starts to see clues and patterns that may not have been apparent at a time when science was just starting to explore the far reaches of the human mind.

Pearl (right) and John Curran (center bottom) invited St. Louis (left: c. 1910) neighbors to Patience Worth evenings. After one such demonstration in New York City, poet Edgar Lee Masters (center top) said Patience "is producing remarkable literature."

I FIRST HEARD ABOUT PATIENCE WORTH 20 years ago, while researching a biography of Hadley Richardson, Ernest

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Hemingway's first wife and muse; Richardson had been born and raised in St. Louis, and her mother, sister and brother-in-law had occasionally attended the biweekly Patience Worth sessions in the Currans' home. Over the years, I collected bits of information about the story, which eventually filled two accordion files in my office. Recently, I spent time at the Missouri Historical Society in St. Louis, where Patience's writings and conversation are meticulously recorded in 29 volumes.

Reading over the material, I was struck by the vibrancy of Patience's personality, the authenticity of her voice and her gift for imagery. Though by modern standards her novels are full of arcane subjects and slow-moving plots, her language brims with feeling and employs a wholly original syntax. She referred to the "me o' me" for the essence of individuality and the "inman" for the soul. She called her writing her "put" or "weaving," her home her "hut." She loved children and nature but also had a taste for finery, and she chafed at doing humble household chores. She was deeply religious and, even at her most acerbic and humorous, displayed an underlying moral seriousness. In marked contrast to the vague, flighty Pearl, Patience also had a potent sense of self. "A phantom?" she protested when a journalist suggested that she'd never been a real person. "Weel enough, prove thyself to me!"

She cultivated an air of mystery. Except for giving two possible dates for her birth—1649 and 1694—Patience refused to locate herself in time other than in the "here." Her reticence extended to other questions about her life on earth. After suggesting that she'd been killed by an Indian, she was asked what tribe her killer belonged to. "Would ye with a blade at thy throat seek the [affiliation] of thine assassin?" she replied.

Over time, however, she let slip some key personal details. Patience hinted that she'd come from Portesham in Dorsetshire, England, near where Thomas Hardy was born in 1840. She never mentioned her father but said her mother had worked as a seamstress for a nobleman's family. She indicated that she had been buried on Nantucket and that a tree had grown out of her dust.

Spiritualism arose in an era of skepticism toward established religions. Once the Fox sisters (from left: Margaret, Kate and Leah, c. 1852) of New York asserted they were mediums, in 1848, the belief spread widely (right: a séance in England, c. 1910).

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Sometimes, Pearl said, she had sharp visions of Patience. In one, she saw Patience as a slight, pretty woman dressed in a flowing gray cape as she galloped on horseback with other riders toward a huge three-masted ship docked at a landing. When the riders reached the dock, Patience pushed back her hood, and, Pearl said, showed her face: she was about 30, much younger than Pearl had thought, with large brown eyes, a determined mouth and masses of deep red hair that tumbled around her shoulders in lustrous waves.

Occasionally, Patience's recollections of her girlhood were so vivid they seemed to have been lifted from the diary of a

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GIOIA DILIBERTO, *a biographer and novelist, lives in Chicago.*
DOUGLAS SMITH, *an illustrator for magazines, books and corporate clients, lives on Peaks Island, off Maine.*

17th-century English maid. "Well I remember a certain church," she once dictated, "with its wee windows and its prim walls, with its sanctity and meekness, with its aloofness and chilling godliness. Well I remember the Sabbath and its quietude of uneasiness, wherein the creaking of the wood was an infernalism, the droning and scuffing of the menfolk's shoes and the rustle of the clothes of the dames and maids, the squeaking of the benches, and the drowsy humming of some busy bee who broke the Sabbath's law. Aye, well I remember the heat that foretold the wrath of God, making the Good Man [the parson] sweat. Aye, and Heaven seemed far, far."

So alive was Patience's language that many of those who sat with Pearl at the Ouija board felt they could see the gestures and facial expressions accompanying her words. "Patience Worth is arch and coquettish with a mind of no small power and altogether loveable," wrote William Marion Reedy, editor of the *Mirror*, one of the

Even though Patience called the portly editor William Marion Reedy "Fatawide," he deemed her "altogether loveable."

nation's leading journals of opinion and literary criticism. The overweight editor started out a skeptic, but quickly fell in thrall to this glib, hyper-literate personality, who affectionately called him "Fatawide." He had "learned to love her as a person more real than many whose hands I grasp," he confessed in the *Mirror*.

BEFORE PATIENCE, Pearl Curran's life had the feel of a tightly laced corset, one that over the years had narrowed and grown more constrained. Born in Mound City, Illinois, in 1883, she was the only child of George Pollard, an itinerant railroad employee and newspaperman, and his high-strung, ambitious wife, Mary. The Pollards moved a great deal—from Illinois to southern Missouri to Texas—as Pollard sought better-paying jobs. Pearl's mother was extremely distressed by her husband's inability to provide a stable living and, after she had a nervous breakdown when Pearl was 4, sent her daughter to live for a while with the child's grandmother in St. Louis.

Though not a good student, Pearl was remembered by a childhood friend as a great talker who "loved to tell jokes

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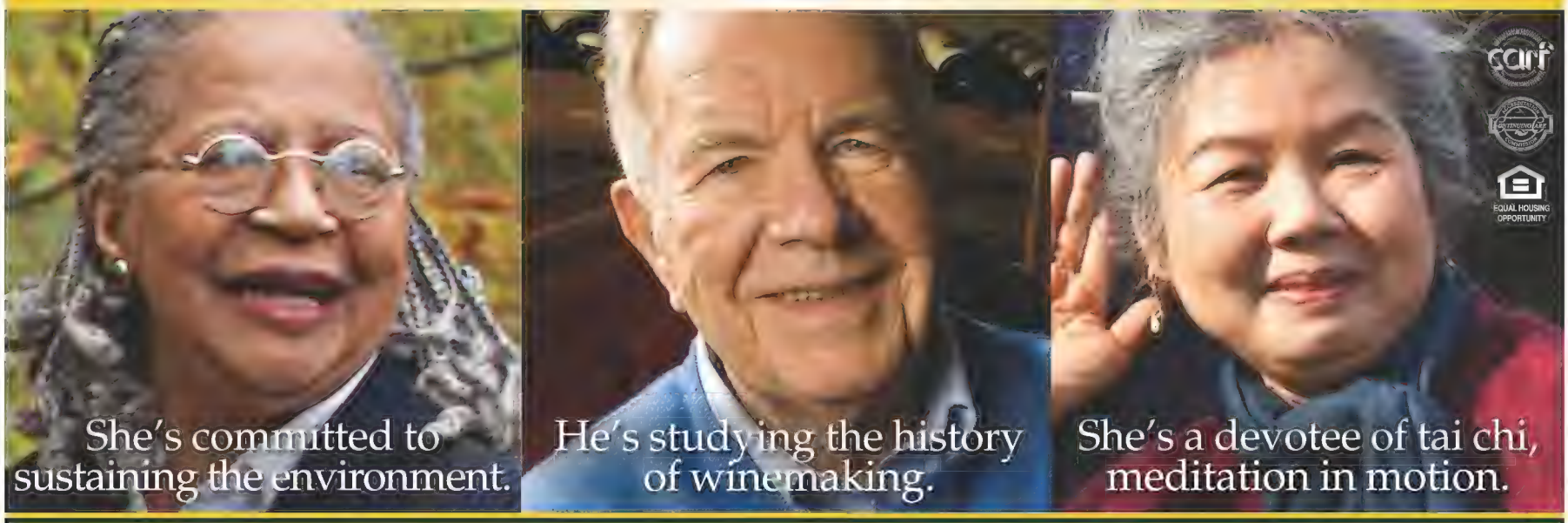
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or funny stories about people." What's more, she had a good memory, and the letters she wrote were full of lively descriptions. From an early age Pearl showed an interest in music, which her mother encouraged. The family's meager resources were poured into Pearl's piano, singing, acting and elocution lessons. Pearl went along with it, she said, because she wanted "to lift myself out of a hopeless future." But at 13, she had what was termed a nervous collapse and dropped out of school.

Throughout this troubled girlhood, Pearl's only known connection to spiritualism came when she went to live briefly in Chicago with an uncle who was the minister of a storefront spiritualist church, and, according to one family member, "an arch faker." Pearl played piano in the church, where services revolved around attempts to contact the dead, but she "didn't like the crowd that came, and the whole thing was repulsive to me," she would recall later.

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Essayist Agnes Repplier dismissed such spirit writers as Patience as the "authors of books as silly as they are dull."

Desperate to become a singer, Pearl worked at shops in Chicago and then at Marshall Field's department store to pay for voice lessons. She kept them up until at 24 she married John Curran, a widowed immigration official and sometime businessman 12 years her senior. In 1908 the newlyweds moved to St. Louis, which was pulsing with prosperity. The nation's top producer of beer and a manufacturing center for leather goods, St. Louis boasted four daily newspapers, sumptuous mansions and beautiful parks.

Not since the Civil War had there been such interest in spiritualism, which had been born in the United States in 1848 when two sisters, Kate and Margaret Fox, claimed to have contacted a dead peddler through telegraphic rapping in their upstate New York farmhouse. Soon, scores of self-anointed mediums (including their sister Leah) burst on the scene, most of them women, whose passivity and purity, it was believed, made them ideal vessels to receive news from the Other Side.

At the time, Ouija boards—parlor toys that supposedly facilitated contact with the dead—were a national

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craze. Pearl Curran, though, claimed to have no interest in such nonsense. Thirty years old in 1913, she was pretty, though exceptionally thin, with thick ginger hair piled on her head in a Gibson girl topknot. Childless—and heartbroken over it—she had little but housework and cooking to occupy her days. She sang in the church choir, entertained, played cards and went to the movies with her husband. One acquaintance described her as a classic Victorian hysteric, plagued by phantom ailments—"a prospective visit of the stork, a tumor, consumption, which all failed to materialize."

Other than her mother, who lived with the Currans, and a teenage stepdaughter, Julie, Pearl's chief companion at this time was Emily Grant Hutchings, the wife of one of John Curran's friends. A robust, black-haired devotee of spiritualism, Emily was also a prolific writer whose poetry, stories and art criticism appeared in many publications, including *Cosmopolitan*, the *Atlantic Monthly*, *McClure's* and the *Mirror*.

In the fall of 1912, soon after Pearl's father died, Emily suggested that she and Pearl try to contact him through Emily's Ouija board. Twice a week, while their husbands played pinochle in the next room, Emily and Pearl sat facing each other on stiff-backed chairs in Pearl's parlor, the board balanced on their knees and their fingers placed lightly on the heart-shaped planchette. Guided supposedly by supra-normal forces, the pointer spelled out messages by alighting on the letters of the alphabet printed on the board. Though occasionally the board spelled out intelligible words—usually family names—it gave up mostly gibberish. To Pearl it was all "silly chatter," a kind of fortuneteller's babble, she recalled in a 1915 interview with the *St. Louis Globe-Democrat*.

Then on the evening of July 8, 1913, no sooner had Emily and Pearl placed their fingers on the pointer than it raced to the letters M, A, N and Y. Within minutes the women had this message: "Many moons ago I lived. Again I come—Patience Worth my name."

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Emily was immediately convinced they'd made contact with a spirit and took control of questioning Patience.

Emily: Where was your home?
Patience: Across the sea.
Emily: In what city or country?
Patience: About me ye would know much. Yesterday is dead. Let thy mind rest as to the past.

Over the next weeks it became clear to Pearl that she, not Hutchings, was the spirit's medium. She said she was astounded by the pictures and words that played through her mind like a movie as soon as she sat at the Ouija board. Pearl described this realization as "when the bolt fell." News of the phenomenon traveled quickly through the Currans' middle-class neighborhood, and they were deluged with requests to witness Pearl communing with Patience. In no time large groups of people were gathering regularly in the Currans' home. These evenings had the atmosphere of church suppers, with a buffet on the dining table, children running about and a few men smelling up the parlor with cigars. There were no dimmed lights, burning candles, chanting or any other trappings of the occult.

One by one, visitors would be called to sit with Pearl, who would let them question Patience or request a poem on a specific topic. Sometimes, when Patience used a particularly odd word, John Curran would interrupt his note-taking to look it up in an encyclopedia. Invariably an impulse to write would seize Patience, and she would announce that it was time to work on one of her novels or plays. Then the pointer would fly around the board and Pearl would call out words at the rate of 1,500 or so an hour, with "never a second's hesitation [and] never an alteration," noted a social worker who attended a Patience Worth evening in 1918.

Though Patience sometimes showed an uncanny knowledge of what was going on in her guests' lives and thoughts, she refused to predict the future and only occasionally settled burning historical questions. When William Marion Reedy, for example, asked her who wrote Shakespeare's plays, Patience replied, "The word of the skin-shoon man [the actor] . . . be his," a cryptic answer but one reasonably interpreted as affirming Shakespeare's authorship.

At first Pearl spelled out every letter with the Ouija board, but as time passed, the mere touch of her hand on the pointer loosed a flood of spoken words. Eventually, she abandoned the board entirely; a feeling of slight pressure in her head would announce Patience's arrival, and Pearl would begin reciting.

While Pearl recited, she behaved normally, with her eyes open and her senses alert to the faces and noises around her. "Sometimes, she looks over to a guest while writing and asks some question entirely foreign to what she is spelling out; again answers the telephone or inquires what the message was; exchanges a few words of greeting to late visitors as they enter and goes on with the work without a moment's hesitation," recalled a visitor. Occasionally, she'd even smoke a cigarette.

In 1915, Casper S. Yost, the frail, deeply religious editorial page editor of the *St. Louis Globe-Democrat*, persuaded the Currans to let him write about some sessions he had witnessed. His series of articles became the basis of a popular 1916 book, *Patience Worth: A Psychic Mystery* (published by Henry Holt, who was himself a spiritualist). Appearing at the height of a war-inspired fad for books by and about spirits, it featured a hearty sampling of Patience's poetry, aphorisms, proverbs and conversation, and it turned Patience and Pearl into celebrities. "Patience Worth['s] messages out of the darkness never sink to the commonplace level, but always show high intelligence and sometimes are even tipped with the flame of genius," said the *New York Times*, echoing other newspaper reviews across the country.

Yost's book was followed in 1917 by Patience's first novel, *The Sorry Tale*, also published by Holt. The story of one of the thieves crucified with Jesus, it received rave reviews. The next year,

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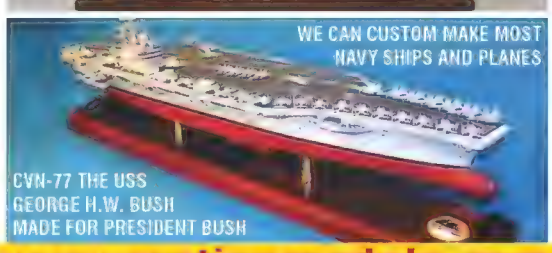

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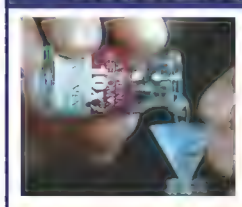

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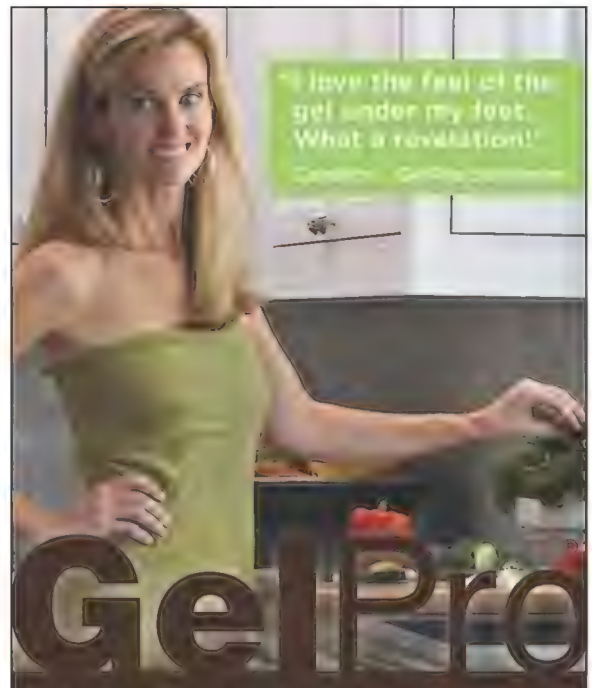

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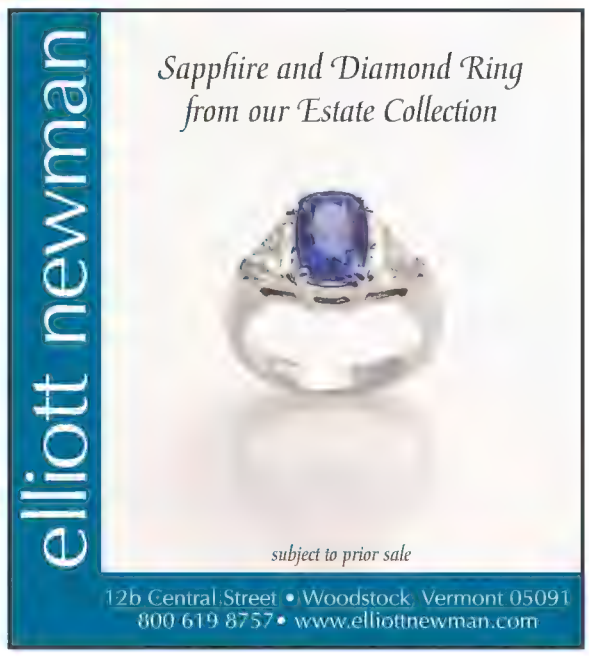
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Harry Houdini (left) and Walter Franklin Prince exposed fake mediums—but after investigating Pearl for several weeks, Prince concluded that she was authentic.

the Joint Committee of Literary Arts of New York named Patience one of the nation's outstanding authors. That May, Holt published Patience's second novel, *Hope Trueblood*, the tale of a fatherless girl in Victorian England. It was written in a 19th-century voice dramatically different from *The Sorry Tale*, a fact that Pearl explained by Patience's urge to widen her audience. But by then the spirit-author fad had begun to fade, and *Hope Trueblood* received mixed reviews. The esteemed *Atlantic Monthly* essayist Agnes Repplier delivered a general condemnation of Patience and her otherworldly ilk as "authors of books as silly as they are dull."

BUT WHO WAS PATIENCE? A fraud? A spirit? The product of Pearl Curran's subconscious mind?

No sooner had she appeared than an uproar ensued in the press, as a variety of experts—philosophers, psychiatrists, neurologists, historians, semanticists and literati—began weighing in from around the nation, Canada and Britain. Psychoanalyst Wilfrid Lay, writing in the literary journal *The Bookman*, insisted that Patience's writing was merely "the automatic activities of [Pearl's] Unconscious." Writer Mary Austin in the *Unpartizan Review* attributed Patience to "an excessive discharge of phosphorus" in Pearl's brain. Other observers explained the phenomenon as the result of inherited "nerve cells" or a "talent that has been transmitted over the heads of [Pearl's] ancestors to her."

Pearl steadfastly refused to cooperate with the psychologists who wanted to study her, but that didn't stop Charles Cory, chairman of the philosophy department at Washington University, who'd been present at several Patience Worth sessions, from claiming to have solved the mystery. In a long article in the *Psychological Review* in 1919, Cory argued that the case could be explained by multiple personality. Though Cory was confounded by Pearl's ability to remain herself while Patience dictated to her—multiples usually inhabit only one personality at a time—he concluded that while Pearl went about her housework during the day, her "other self" composed her novels and poems.

Investigators into the "supernormal" powers of the human mind had recognized the importance of the subconscious long before Freud did. Some of the most brilliant men of the day were

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associated with the American Society for Psychical Research (ASPR), including the founder, Harvard psychologist William James (brother of novelist Henry), historian Francis Parkman and Theodore Roosevelt. By the early 20th century, however, the field had become rife with cranks and crackpots whose insistence on scientific objectivity belied their secret beliefs in magic.

James Hervey Hyslop, head of the ASPR from 1905 until his death in 1920, was typical. After earning a PhD in philosophy from Johns Hopkins University, Hyslop had joined the faculty of Columbia University in 1889 as a professor of logic and ethics, but by the early 1900s he had given up his post to devote himself to psychical research. He claimed that he could determine the authenticity of spirit communication through a system of "cross references," whereby several mediums who were unknown to each other would receive related messages from a spirit. As soon as he heard about Patience Worth, he wrote to the Currans, urging them to submit to his cross-reference test. They refused. Anger at their rejection may have been behind the attack he launched in the April 1916 issue of the *Journal of the American Society for Psychical Research*. The case of Patience Worth was "a fraud and a delusion," he wrote. "Notoriety and making a fortune were the primary influences acting on the parties concerned."

A decade later, Hyslop's judgment was emphatically contradicted by his successor at the ASPR, Walter Franklin Prince. A one-time Episcopal and Methodist minister and amateur magician who had a PhD in psychology from Yale, Prince had grown up with a passion for puzzles. He became fascinated by abnormal psychology after he and his wife adopted a girl diagnosed with multiple personalities. This led to an interest in the psychology of mediums. Some of Prince's research was published in the *Journal of the ASPR*, and soon Prince became the society's chief investigating officer, working with Harry Houdini to expose fake mediums, who "came to fear him like

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Finding no evidence that "ordinary" Pearl had produced the material, Prince concluded that "some cause operating through . . . Mrs. Curran must be acknowledged."

the plague," according to a friend.

Pearl, however, showed no fear. After turning down all similar requests over the years, she welcomed Prince into her life for reasons that remain unclear, and he spent several weeks in St. Louis reading over the entire Patience Worth record, interviewing Pearl, her stepdaughter and her friends and sitting in on long sessions with Patience. In 1927, he published his findings in a 500-page book, *The Case of Patience Worth*, in which his admiration for Patience's "marvelous imagination . . . gift of poetic expression . . . singular wisdom and spirituality" shines from every page.

Finding no evidence that "ordinary" Pearl had produced the Patience Worth material either consciously or unconsciously, Prince concluded that "some cause operating through but not originating in . . . Mrs. Curran must be acknowledged."

Among the Currans' neighbors and friends in St. Louis, opinion divided along gender lines. Irving Litvag, author of *Singer in the Shadows*, a 1972 book on the case, interviewed several women who'd witnessed the Patience sessions and found "complete unanimity of opinion among them: They regard the Patience Worth case as the most remarkable activity in which they ever participated; they considered Mrs. Curran to be completely honest; they remember her as an exu-

berant, witty, 'cut-up' type of person; [though] their husbands, to a man, never were convinced of the genuineness of the phenomenon."

Indeed, some of these men thought Pearl was unbalanced. "I wonder if John H. Curran ever gives a thought to the psychological and pathological aspect of Mrs. Curran's condition? He better," William Clark Breckenridge, a St. Louis businessman, wrote to a friend.

Those who disdained spiritualism grasped at any evidence that Pearl was a fraud. A reader of the *Mirror*, for example, pointed out that Patience Worth was the name of a character in *To Have and To Hold*, a popular 1900 bodice-ripper by novelist Mary Johnston set in Colonial America. Pearl said that she hadn't read the novel until after her own Patience Worth appeared.

On the other hand, those who believed that Patience Worth was a spirit struggled to prove it. In 1921 Casper Yost made the journey to Dorsetshire, England, Patience's alleged birthplace, and tracked down scenes she'd described, including a monastery and a village church. He came back with pictures of some ruins dating from the 17th century but no hard evidence that tied them to a real person, as he had hoped.

BY THE 1920S, THE FAME of Patience and Pearl had begun to dim. The literary landscape was being reshaped by the likes of Hemingway and James Joyce, and the flapper was the new feminine ideal. Patience came to seem a throwback to an outworn era of table rappings and séances, of sentimentalism and blind faith in God.

Though the Currans apparently shared some of the proceeds from Yost's book—enough to finance their adoption of a baby girl in 1916—they remained beset by financial problems. They had made no money from Patience's novels and, according to John Curran, lost $4,000 (about $51,000 in 2010 dollars) from *Patience Worth* magazine, an erratically published journal the couple established to promote Patience's writing. "And in figuring that expense we haven't counted the cost of

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entertaining 8,000 persons at our home," he told a reporter.

Pearl's situation became desperate in 1922: John Curran died after a long illness at the age of 51, and the couple's biological daughter, Eileen, was born six months later. Pearl, who'd thought she was infertile, suddenly found herself with two small children and no job. To supplement a $400 monthly allowance given her by Herman Behr, a wealthy fan from New York City, she began traveling around the country giving demonstrations with her gilt-lettered green Ouija board. She appeared before large crowds in public auditoriums and small groups in private homes, sometimes dressed in a flowing white gown, a lace handkerchief in her right hand that she occasionally dabbed to her brow. At one gathering in New York, the actress Ethel Barrymore showed up. In Hollywood, she conjured Patience at the home of Douglas Fairbanks Jr.

In 1926, Pearl married Henry H. Rogers, a physician and considerably older widower, but the marriage lasted only a few years. After their divorce, Pearl moved to Los Angeles. At a party, she encountered a businessman named Robert Wyman, to whom she had been briefly engaged as a teenager in Missouri. In 1931 he became her third husband. In California Pearl was the idol of a group of artsy women who maintained the belief that spiritual visions were sources of female power. Though her celebrity had deserted Pearl, Patience never did. Pearl received messages from Patience until a week before her death, from pneumonia, at age 54, on December 3, 1937.

IN THE YEARS SINCE Pearl Curran's death, neuroscientists have attempted to explain the abilities of savants, including autistic and brain-injured people who occasionally display astounding skills in mathematics, music and art.

Writing prodigies like Pearl, however, are rare, and rarer still are people of ordinary intelligence who display prodigious feats of memory. Several years ago, researchers at the University

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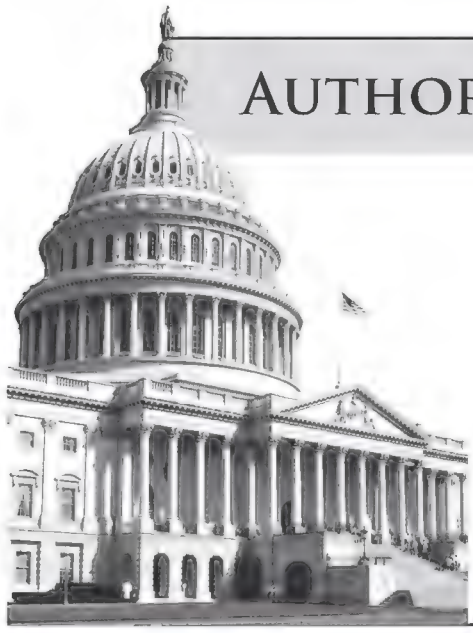

Authorized by Congress: Public Law 99-185

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of California at Irvine studied Jill Price, a middle-aged one-time secretary who could recall every moment of her life, including the exact dates of myriad news and cultural events. Neurobiologist James L. McGaugh, who determined through an MRI that parts of Price's brain were larger than normal, refers to her condition as "super autobiographical memory." McGaugh said he and a co-investigator were preparing a paper on the case for publication later this fall.

Pearl's archaic language and knowledge of history might have been partly the result of extraordinary memory—that is, a replaying in her mind of information imprinted there by books she had read or listened to as a girl. "It seems similar to photographic memory surrounded by a context of spiritualism," says Howard Eichenbaum, director of the Center for Memory and Brain at Boston University. But such a medical abnormality would not explain her stunning narrative skills or the moments of true art in her writing.

"We don't really have an explanation" for cases like Pearl Curran's, says McGaugh. "It's a frontier of neuroscience that's never really been explored. We just haven't had the conceptual tools to think about it."

The answer, however, may lie in a short story Pearl wrote under her own byline in 1919 for the *Saturday Evening Post* (and was ignored by Prince, Marion Reedy and other critics at the time). In that story, "Rosa Alvaro, Entrante," Mayme, a lonely salesgirl in a Chicago department store, is told by an obviously fraudulent fortuneteller that Mayme has a spirit guide, a fiery young Spanish woman named Rosa Alvaro. Mayme begins slipping in and out of Rosa's persona and eventually confesses to a friend that she purposefully adopted it to enliven her drab life: "Oh Gwen, I love her! She's everything I want to be. Didn't I find her? It ain't me. It's what used to be me before the world buried it."

Pearl was thrilled that she, and not Patience, was the acknowledged author. When the movie rights to "Rosa Alvaro, Entrante" were sold, she wrote to a friend, "I got word Saturday that it was sold for FIFTEEN HUNDRED DOLLARS! To the GOLDWYN FILM COMPANY. Oh my dears, can you imagine! And that is not all—the Famous Players [movie company] have written that they are 'tremendously' interested in my stuff and want me to submit 'any and all' stories to them. . . . I can hardly believe my eyes. They tell me there is a world of future for me if I won't get foolish."

That Pearl wrote "Rosa Alvaro, Entrante" at all shows she had "some sense of looking at [the phenomenon] from the outside," says Shea, the Washington University professor emeritus. "When you consider the ease with which Pearl went back and forth during the Patience Worth sessions between her own parlor talk and the Ouija board dictations, you wonder, did she ever say to herself, 'I know it's all me'?"

Shea believes there might have been fraud involved, some preparation on Pearl's part by reading books and other material in the hours before the Patience Worth sessions. If true, Pearl may have felt guilt, which might have been expiated by her writing "Rosa Alvaro, Entrante."

Nothing ever came of the movie deal, or, for that matter, Pearl's own literary career. What success she had she owed to Patience. The 17th-century spinster gave Pearl's life shape and meaning and allowed her to project herself beyond the confines of domestic womanhood to become a writer.

But she was hardly the first artist whose creativity was enhanced by channeling something outside herself—the poets Samuel Coleridge, William Blake, James Merrill and Sylvia Plath come to mind. When Pearl described receiving scenes, characters, plots and dialogue from Patience that "immediately become my property . . . as real to me as personal experience," she echoed many writers who live as fully in their writing as in their own lives.

There be nay a trick in that, as Patience would say.

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So Where You From?

Why must a foreign accent always invite an inquisition? BY IVA R. SKOCH

AMERICANS ARE SO NICE. It's a shame, really. It wouldn't be so bad if nice people didn't like small talk so much, but they seem to love it. If you're an immigrant with an accent, as I am, your days will be filled with conversations with nice people.

It goes like this: I utter a simple "thank you" to a grocery store cashier, prompting an immediate "Where are you from?" "Czech Republic," I say. "Really? My aunt went to Russia last year," she responds. What do I say to that? Do I go with the pointless, "That's nice" and beat a hasty retreat? Or do I say what I'm actually thinking: "What does that have to do with anything?" But that's rude. I try not to be rude—partly because I am an immigrant here (and there are few things more insufferable than ungrateful immigrants) and partly because being nice is contagious. I usually opt for the pointless.

Don't get me wrong, I haven't quite become a nice person. I often long for the rude anonymity of Europe. Back in 2000, when I was "fresh off the boat," as the not-so-nice folks say, I worked on the 24th floor of an office building in Seattle. How I dreaded those long 9 a.m. elevator rides. They were filled with the nicest people you'll ever meet. To make matters worse, they had all just spent an hour cooped up alone in their cars and were just dying to talk. "Could you press 24 for me, please?" I ask an elderly man. "Do I detect an accent?" he asks, all proud of himself. "Where are you from?"

Here we go. "Czech Republic," I say. "Ah, Czechoslovakia," he says. "It's actually the Czech Republic now," I explain politely. "The country split up in 1993." Undeterred, he continues, "My friend's grandfather was from Czechoslovakia." "That's nice," I say and watch the elevator stop on the fifth and sixth floors. Please, I beg quietly, don't let him ask any more questions.

"So what brings you here?" he, of course, asks. "My husband is American," I say, knowing what's coming next. "What does your husband do?" "He is a lawyer. Don't hold it against me," I say, trying to soften the blow, since even nice people love to hate lawyers. It also buys time. He chuckles for a floor or two. "How long have you been here?" he asks. "Just a year," I respond. "Well, your English is fantastic," he says. And this, I must admit, is very nice to hear. "Thank you," I say—but what I'm thinking is: "Clearly, it isn't fantastic enough to allow me to be anonymous."

He gets out on the 18th floor. Now it's only me and three other people, with six floors still to go. "Where do you live in Seattle?" a young woman asks. "Belltown," I say. "No way! Me too," she exclaims. "What building?"

I've just told a group of complete strangers where I'm from, what got me here, how long I've been here, my husband's occupation and where I live. Now they want me to reveal my address. "I'm sorry," I say. "I don't feel comfortable telling you that." "I didn't mean to offend you," she says, stiffly. "You didn't," I assure her. Finally, there is silence. But it isn't the anonymous silence I grew up with in Europe. Why do nice people have to ruin everything?

IVA R. SKOCH *is writing a book about crashing weddings around the world. She now lives in New York City.*

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